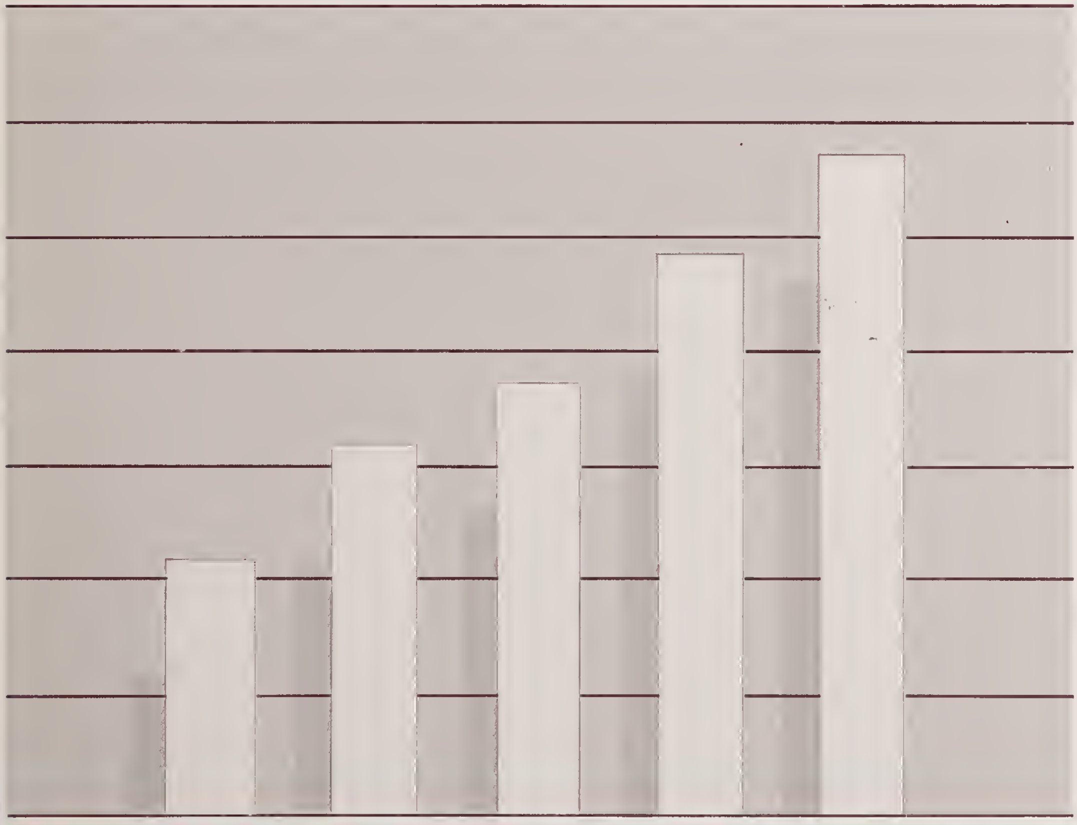
PHYSICIAN
PAYMENT REVIEW
COMMISSION



Annual Report to Congress 1990

REPORTS
R
728
.5
U527
1990

R728.5
.U527
1990
c.3

PHYSICIAN
PAYMENT REVIEW
COMMISSION

2120 L Street, NW. Suite 510
Washington, DC 20037
(202) 653-7220

Annual Report to Congress 1990

PREFACE

In 1986 the Congress created the Physician Payment Review Commission to advise it on reforms of the methods used to pay physicians under the Medicare program. Since that time, the Commission has conducted analyses of physician payment issues, provided a forum for groups representing beneficiaries, physicians and other interests to present their views, and worked closely with the Congress to reshape Medicare policy. The Commission has been guided by the principles that payment reform should maintain financial protection for beneficiaries, provide equitable payment for physicians and slow the rate of increase in Medicare expenditures.

In its 1989 report to Congress, the Commission presented a comprehensive set of proposals for Medicare physician payment reform. The Congress drew heavily on the Commission's recommendations in developing legislation that was enacted in November 1989. The 1990 report is devoted to examining a number of remaining policy and technical issues that must be resolved before the legislation is implemented in 1992. It also provides a progress report on several studies that the Congress has requested the Commission to undertake and sets out work plans for new issues the Commission plans to take up in the coming year.

Over the past few years, the Commissioners and staff have come to appreciate the major contributions made to the Commission's work by other government agencies, private organizations and many individuals. During the past year, staff of the Health Care Financing Administration and other agencies of the Department of Health and Human Services, the Congress, the Office of Technology Assessment, the Congressional Budget Office, the Congressional Research Service, the General Accounting Office, and the Prospective Payment Assessment Commission provided many kinds of information and assistance to the Commission.

Social and Scientific Systems, especially Jansen Davis, Paul Menick and Arlene Turner, provided exceptional programming support for many aspects of the Commission's work. Lynn Lewis provided very timely and helpful editing of the report that was much appreciated by the staff.

The Commission has continued to draw on the advice of physicians, beneficiaries, Medicare carriers, and other experts on physician payment issues. It has benefitted from their public testimony, information they have provided, their participation in Commission consensus process activities, and their comments on the draft chapters of this report. The

Commission is particularly appreciative of the efforts made by surgical specialty societies to provide data on pre and postoperative visits to be used in assigning relative values to surgical global services.

Among the many people who contributed to the Commission's work in the past year, we would like to single out the following who were particularly helpful to the staff and Commissioners: Kathy Banks, Marc Berk, Jack Bierig, Sandra Christensen, Benson Dutton, Jose Escarce, James Fossett, George Greenberg, Linda Hall, Scott Harrison, David Helms, Edward Hirschfeld, Pam Johnson, Terrance Kay, Jesse Levy, Lisa Looper, John Luehrs, Carole Magoffin, Susan Marquis, Ron Menaker, Jim Mikula, Cindy Moser, Dale Mulholland, Gregory Nycz, Peter Oswald, Julia Paradise, Bernard Patashnik, Janet Perloff, Ronald Pfannerstill, Steve Raetzman, Dwight Ruff, Bonnie Thielke, Andy Webber, W. Pete Welch, Frederick Wenzel, Brian Winkel, Donald Zais, Steve Zuckerman. Special thanks also go to Janet Corrigan, Herschel Goldfield, Ann Mongoven, and Julie Swartzman whose work with the Commission staff is reflected in a number of chapters of this report.

Philip R. Lee, M.D.
Chairman

March 1990

PHYSICIAN PAYMENT REVIEW COMMISSION

COMMISSION MEMBERS

Philip R. Lee, M.D., Chairman
Director
Institute for Health Policy Studies
University of California, San Francisco, CA

Jim Bob Brame, M.D.
Private Practice of Medicine
Eldorado, TX

P. William Curreri, M.D.
President
Strategem of Alabama, Inc.
Mobile, AL

Karen Davis, Ph.D.
Chairman
Department of Health Policy
and Management
The Johns Hopkins University
Baltimore, MD

John M. Eisenberg, M.D., M.B.A.
Sol Katz Professor of General
Internal Medicine
Hospital of the University
of Pennsylvania
Philadelphia, PA

Jack Guildroy
Board of Directors
American Association of
Retired Persons
Port Washington, NY

Mark C. Hornbrook, Ph.D.
Senior Investigator and
Senior Economist
Center for Health Research
Kaiser Permanente, NW Region
Portland, OR

Robert B. Keller, M.D. [1]
Private Practice of Medicine and
Executive Director
Maine Medical Assessment
Foundation
Belfast, ME 04915

Carol Ann Lockhart, Ph.D., R.N.,
F.A.A.N.
Director
Greater Phoenix Affordable
Health Care Foundation
Phoenix, AZ

Walter B. Maher
Director, Federal Relations
Human Resources Office
Chrysler Motors Corporation
Washington, DC

Walter J. McNerney
Professor of Health Policy
J.L. Kellogg Graduate School
of Management
Northwestern University
Evanston, IL

Thomas R. Reardon, M.D.
Private Practice of Medicine
Portland, OR

Uwe R. Reinhardt, Ph.D.
James Madison Professor of
Political Economy
Woodrow Wilson School
Princeton University
Princeton, NJ

Gail R. Wilensky, Ph.D.
Vice President
Project Hope
Chevy Chase, MD

---

[1] Gail R. Wilensky, Ph.D., resigned from the Commission effective January 18, 1990, to become Administrator, Health Care Financing Administration, U.S. Department of Health and Human Services. Robert B. Keller, M.D., was appointed to fulfill the remainder of Dr. Wilensky's term.

COMMISSION STAFF

Paul B. Ginsburg, Ph.D., Executive Director
Glenn T. Hammons, M.D., Deputy Director
Lauren B. LeRoy, Ph.D., Deputy Director

Principal Policy Analysts

David C. Colby, Ph.D.
Roz Diane Lasker, M.D.

Senior Analysts

Jill Bernstein, Ph.D.
Christopher Hogan, Ph.D.
David Juba
William Koprowski, Ph.D.[1]
Curt Mueller, Ph.D.
Carlos Muñoz, Ph.D.[1]
Thomas Rice, Ph.D.[2]

Analysts

James Bahr
Maureen Molloy
Anne Schwartz
Anthony Tucker

Junior Analysts

Katherine Macenko
Susan Wall

Administrative Staff

Joyce Añonuevo
Ann Johnson
Norma Leake
Sheran McManus
Faye Outten-Kirk

---

[1] Drs. Koprowski and Muñoz are working with the Commission through the Robert Wood Johnson Faculty Fellowship Program in Health Finance.

[2] Dr. Rice is on sabbatical leave from the University of North Carolina.

CONTENTS

Preface i
Summary and Recommendations xii

Chapters

1 The Context for Reform 1
2 The 1989 Physician Payment Reform Legislation 18
3 Refining the Scale of Relative Work for the Medicare Fee Schedule 43
4 Estimating Practice Expense 59
5 Professional Liability Insurance Expense 69
6 Defining Payment Areas for the Medicare Fee Schedule 85
7 Accuracy of Geographic Adjusters in Rural Areas 103
8 Anesthesia, Radiology, and Pathology in the Medicare Fee Schedule 111
9 Payment to Limited License Practitioners 137
10 Financial Protection for Beneficiaries 154
11 Setting Medicare Volume Performance Standards 167
12 Subnational Volume Performance Standards 183
13 Physician Alternatives to Volume Performance Standards: Medicare Risk Contracts and Carve Outs 205
14 The Federal Government's Role Under Volume Performance Standards 223
15 Legal Impediments to Physician Efforts to Increase Appropriateness of Care . . 235
16 Physician Payment in the Medicaid Program 246

Appendixes

A Response to the Secretary of HHS on the Commission's Review of HHS Reports to Congress (Letter) 276
B Overvalued Procedures in OBRA89 288
C Summary of the Commission's Hearing on Rural Practice Costs 300
D Profiling Physician Practice: Experiences in Canada and the Federal Republic of Germany 309
E Commission Responsibilities Mandated in Physician Payment Reform Legislation 316
F Commission Publications 320

Glossary 321

Biographies

Commission Members 331
Staff 338

TABLES AND FIGURES

Tables

1-1 Components of Increases in Recognized Charges Per Enrollee for Physician Services, 1980-1989 (in percent) 9
1-2 Procedure Groups Accounting for 50 Percent of Total Growth in Allowed Charges due to Net Residual, 1985-1987 10
1-3 Cost-Sharing Under Medicare, 1990 13
1-4 Participation Rates by Specialty 15
1-5 Assignment Rates by Specialty (Percent of Allowed Charges) 15
2-1 Change in Medicare Payments for Selected Procedures 35
2-2 Change in Medicare Payments by Specialty 36
2-3 Change in Medicare Payments by Geographic Area 37
2-4 Beneficiaries' Liabilities for Coinsurance Plus Balance Bills Under the Medicare Fee Schedule 38
2-5 Distribution of Beneficiaries by Changes in Coinsurance Plus Balance Bills 39

4-1 Direct Labor Costs Included in CPT Code "Biopsy of Skin" (CPT 1100) 65
4-2 Direct Materials Costs Included in CPT Code "Biopsy of Skin" (CPT 1100) 66
4-3 The Allocation of Indirect Costs to Services 67
6-1 Geographic Practice Cost Indexes in Selected Areas Under the MSA/Rural and Statewide Payment Area Configurations 88
6-2 Payment Differences Under the CPR Prevailing Charge Index and the MFS Practice Cost Index for Selected Bordering Localities 89
6-3 Contiguous Areas with Largest Percent Difference in Geographic Practice Cost Index (MSA/Rural Area Configuration) 90
6-4 Comparison of Geographic Practice Cost Index Values in MSA/Rural and Statewide Payment Areas 94
7-1 GPCI Input Categories and Cost Share Weights 105
8-1 Comparison of Anesthesia Relative Values 116
8-2 Comparison of Radiology Relative Values (Professional Component) 125
8-3 Comparison of Pathology Relative Values (Professional Component) 133
9-1 Procedure Codes Accounting for the Top 70 Percent of Allowed Charges for Podiatrists, 1987 140
9-2 Distribution of Allowed Charges for Services Provided by Podiatrists and Other Physicians, 1987 141
9-3 Average Allowed Charge by Specialty for Services Provided by Podiatrists, 1987 142
9-4 Distribution of Allowed Charges by Specialty for Services Provided by Oral and Maxillofacial Surgeons, 1987 143
9-5 Procedure Codes Accounting for Top 50 Percent of Allowed Charges for Oral and Maxillofacial Surgeons, 1987 144
9-6 Average Allowed Charge by Specialty for Services Provided by Oral and Maxillofacial Surgeons, 1987 145

9-7 Procedure Codes Accounting for the Top 90 Percent of Allowed Charges to Optometrists, 1987 147
9-8 Distribution of Allowed Charges by Specialty for Services Provided by Optometrists and Ophthalmologists, 1987 (percent of charges) 148
9-9 Average Allowed Charge for Services Provided by Both Optometrists and Ophthalmologists, 1987 149
12-1 Reported Yearly Expenditure Growth is Highly Variable 187
12-2 Long Run Rates of Growth Differ Across States 190
12-3 Fraction of Charges by Type of Service (Osteopaths and Limited License Practitioners Excluded) 195
12-4 Overlap Between Surgeons and Surgery 196
12-5 Defining Surgical HCPCS Codes as What Surgeons Do 198
12-6 Major and Minor Surgical Care by Specialty 199
12-7 Long Term Trends in Part B Charges 201
12-8 Simulation of the Impact on Fees of Separate Surgical/Nonsurgical VPS Updates 203
16-1 Medicaid Physician Payment Methodologies by State, 1986 256
16-2 Survey-Based Data on Recent Trends in Medicaid Participation, by Physician Specialty 258
16-3 Percentage of Pediatricians Considered Full Participants in Medicaid, by State, 1978 259
16-4 Medicaid Maximum Payments and Medicare Maximum Allowable Charges, Specialists, 1986 260
16-5 Medicaid Maximum Payments and Medicare Maximum Allowable Charges, Specialists, 1986 261
B-1 Overvalued Procedures 294

Figures

1-1 Federal Spending on Human Resource Programs 1970 and 1988 4
1-2 Medicare's Share of the Federal Budget, 1980 and 1989 5
1-3 Gross National Product and Expenditures for Medicare, Medicare Physician Services, and Total National Health Care 1970-1990 6
1-4 Medicare Physician Service Expenditures 1980-1995 7

1-5 Medicare Expenditure Trends 1980-1989 8
1-6 Beneficiary Out-of-Pocket Costs for Medicare Part B as a Percent of Annual Social Security Benefit 12
16-1 Medicaid Recipients and Payments by Basis of Eligibility in FY 1988 253

EXECUTIVE SUMMARY

With this fourth annual report to Congress, the Physician Payment Review Commission begins a new phase in its responsibilities to advise the Congress on physician payment in the Medicare program. Its first three annual reports were devoted to developing a multifaceted reform of physician payment. The 1989 report reflected the culmination of this work, presenting a comprehensive proposal that included four major elements: a Medicare fee schedule, balance billing limits, expenditure targets, and a program of effectiveness research and development of practice guidelines (PPRC, 1989a). In addition, the Commission has provided budget advice to the Congress each year, identifying how it could meet annual budget objectives while moving the payment system toward long-term reform.

THE 1989 LEGISLATION

In its first report to Congress in March 1987, the Commission described its goals for reform of Medicare payment to physicians. They included improving financial protection for beneficiaries, improving equity among physicians, containing the costs of physicians' services to the Medicare program and its beneficiaries, and simplifying administration. The Omnibus Budget Reconciliation Act of 1989 (OBRA89; P.L. 101-239) moves a long way toward meeting these goals.

Provisions of OBRA89

Beginning in 1992, Medicare payment to physicians will be based on a fee schedule. The relative value of each service will be determined by estimates of average physician time and effort, practice expense, and a separate factor for the costs of professional liability insurance (PLI). While the relative value scale (RVS) will apply nationally, the payment in each locality will depend on a geographic adjuster that reflects differences in practice expense, PLI expense, and a partial adjustment for geographic differences in the cost of living.

Limits on charges that are a uniform percentage above the fee schedule amount will replace the current physician-specific maximum allowable actual charge (MAAC) limits.

These charge limits will begin in 1991 and by 1993 will be set at 115 percent of the Medicare payment amount.

The fee schedule will be fully implemented by 1996. A substantial amount of the change will occur by 1992, however, when 32 percent of services will be paid entirely on the basis of the Medicare Fee Schedule and 69 percent of the change in payment rates will have been accomplished.

The initial conversion factor, which attaches dollar amounts to the relative values, is to be calibrated to achieve budget neutrality. This means that total payments to physicians under the fee schedule are to equal the amount projected under the current system. The Commission is concerned that two technical issues related to calculating the conversion factor--the assumptions used about changes in utilization induced by the Medicare Fee Schedule and the lack of a provision for recalculating budget neutrality at each step in the transition--could be at odds with the Congress' intent.

Annual updates in the conversion factor will be based on Volume Performance Standards (VPSs). Under this policy, updates will depend largely on how increases in Medicare expenditures for physicians' services compare with a previously set standard. Each year, the Congress will set a performance standard for the rate of growth in spending for physician services. It then will compare the actual experience to this standard and determine the conversion factor update on the basis of this comparison and other factors. If Congress does not act to set either the performance standard or the update, the Health Care Financing Administration (HCFA) will apply a formula specified in OBRA89 to make that determination.

The VPS policy expresses Congress' determination to slow the growth of expenditures to an affordable rate by paying only for services that are appropriate. The policy's underlying concept is that by basing fee updates on how expenditure growth compares with a performance standard, the medical profession is given a collective incentive to foster approaches to slow expenditure growth. While these financial incentives are not intended to influence the decisions of individual practitioners directly, they do provide a reason for physicians to become more involved in efforts to contain medical costs. Physicians could, for example, work through their professional organizations to expand continuing education, develop and disseminate practice guidelines, and become more actively involved in peer review activities. Such activities could provide physicians, payers, and patients with the information they need to make better choices about appropriate medical care.

If the VPS system is to achieve the Congress' goals for cost containment through increasing appropriateness of care rather than through smaller fee updates, the medical profession must take the leading role in changing the way that physicians and patients think about using medical resources. The perceived obligation for physicians to provide and for patients to receive every service that has some marginal value regardless of cost must change.

The federal government will support the medical profession's efforts to increase appropriate use of medical resources in several ways. It will provide financial support for development of guidelines and review criteria. It will also generate and disseminate information on utilization patterns to help focus these efforts and to enhance peer review.

Much of this federal role is encompassed in the fourth component of the payment reform legislation--expanded federal support of health care research and dissemination of what is learned. OBRA89 established the Agency for Health Care Policy and Research (AHCPR) to conduct and support research on the quality, appropriateness, effectiveness, and cost of health care services. AHCPR is to use the results of this research to promote improvements in clinical practice and in the organization, financing, and delivery of health care services.

Impact of the Fee Schedule

The resource-based fee schedule will alter the pattern of physician payment in a number of important ways. Basing relative values on the time and intensity of effort required to perform different services will remove the distortions in the incentives to physicians concerning what services to provide. This will increase payment for evaluation and management (EM) services compared to that for technical procedures. Commission simulations project that if the fee schedule had been in effect in 1989, payment for primary care services (visits in offices, nursing homes, the home, and in emergency rooms) would be 30 percent higher than it was. Payment for cataract surgery and coronary artery bypass surgery would have been 23 percent and 34 percent lower.

The fee schedule will also increase revenues to specialties for which EM services comprise a substantial part of practice, such as family medicine and internal medicine. Payments to these specialties would have been 39 percent and 15 percent higher, respectively.

Both direct and indirect practice costs will be estimated from accounting data on a wide variety of practices and incorporated into the RVS. This will significantly affect payments for services in which practice costs comprise a large proportion of total resource requirements.

Geographic variation in payment for identical services will be reduced, with payment increasing for most rural practitioners. On average, payment to rural practices would have been 13 percent higher under the fee schedule.

Beneficiary liability for charges in excess of Medicare-allowed amounts will be reduced substantially. Simulations suggest that in the aggregate, liability for balance billing would have been 75 percent lower.[1] Combined expense for coinsurance and balance billing would have been lower for 68 percent of beneficiaries and increased by $10 per year or less for another 21 percent.

Implementation

With the outlines of payment reform clearly established, the crucial task of implementation lies ahead. Implementation involves numerous decisions about how to translate the OBRA89 provisions into an operational policy.[2] The Congress expects to make the most important of these decisions itself and has therefore called for various studies and recommendations. For many of the remaining policy decisions, the Congress has asked the Commission to contribute its analysis and judgment.

This report is devoted to the numerous policy issues on which the Commission has been requested to advise the Congress. The Commission's work on these issues is at different stages. For some, the Commission has made recommendations, which are presented in this report. On others, the Commission has analyzed and discussed the issues, but has not yet completed its work. The Commission expects to bring recommendations on these issues to the Congress as it completes its work during the coming year. Discussion of these issues is intended as a progress report. The Commission hopes that these discussions will help others develop their own views and help the Commission make future recommendations. For still other issues, the work is in the earliest stages. These areas are simply introduced in this report, along with a work plan.

REFINING THE SCALE OF RELATIVE WORK

The physician work component of the RVS will be based on estimates from the Resource-Based Relative Value Study prepared by William Hsiao and his colleagues at Harvard University (Hsiao et al., 1988). The Commission concluded in its 1989 report to Congress that the basic methodology was sound, but that parts of the study needed to be revised and expanded. Hsiao and his colleagues are correcting certain methodologic problems that were identified in the first phase of the study and expanding the study to cover additional services and specialties. The Commission is focusing on coding problems that need to be corrected before accurate relative work values can be assigned to EM services and surgical global services. After this work is completed, the Commission will begin to identify any remaining problems in the scale of relative work and to make necessary refinements.

---

[1] This estimate is sensitive to assumptions about how physician behavior concerning assignment and balance billing will be affected by the new payment system. It assumes that physician behavior concerning assignment will not change and that for unassigned claims, submitted charges will be the same. Some alternative assumptions would suggest a smaller but substantial reduction in balance billing.

[2] The legislation calls on HCFA to publish a model fee schedule by September 1, 1990. While an early indication by HCFA concerning its approach to the numerous implementation decisions would be useful for all concerned, publication of actual fees for large numbers of procedures by that date would be premature and cause unnecessary confusion. Results from the second phase of the study by William Hsiao and his colleagues at Harvard University are not expected to be available in time to have been analyzed and incorporated into a model fee schedule by September 1.

Since the 1989 report, much progress has been made toward resolving coding problems. The Commission's Survey of Visits and Consultations is nearly complete. A consensus panel sponsored jointly by the Commission and the American Medical Association (AMA) has been convened and is working on incorporating time into EM definitions of levels of service. In order to calibrate the relative values for surgical global services, the Commission has been compiling and validating data provided by surgical specialty societies on pre- and postoperative visits associated with each operation.

In the fall of 1990, when the second phase of the Hsiao study and the Commission's work on coding are complete, the Commission will begin a formal process to review and refine the scale of relative work. Specialty societies will be asked to identify problems related to the relative work values (RWVs) for surveyed services, the cross-specialty links, and the families of services and benchmark services used in the extrapolations. These problems will be corrected by the Commission, in consultation with representatives of the Hsiao team, the AMA, HCFA, and an interspecialty panel of physicians. The Commission will also convene specialty-specific advisory panels of physicians to help it refine RWVs developed through extrapolation. Most of the refinements will be completed by the summer of 1991.

The scale of relative work may need further refinements to make it applicable to the care of Medicare patients. In the Hsiao study, each estimate reflects the relative amount of work involved in providing a service to the typical patient in the general population who receives it. But the Medicare Fee Schedule will apply to a more selective population: patients who are 65 years of age or older or disabled. The Commission plans to identify RWV estimates that do not reflect the work involved in caring for typical Medicare patients and to obtain data to determine whether these differences are significant. If substantial differences are identified, the Commission will calculate "Medicare adjusters" to the RWVs for those services. This will permit the Medicare program to tailor the RVS to the needs of its beneficiaries, while leaving intact an RVS applicable to a general population for use by other payers. Severity of illness modifiers may also be needed to differentiate relative values for some services delivered to atypical Medicare patients.

PRACTICE EXPENSE

Practice expense constitutes almost half of the resources that are to be allocated to the services in the RVS. Much of practice expense constitutes overhead, in that a given resource is used to produce all or most physician services. Office rent is an example. But some practice expense supports only a limited range of services--for example, capital costs of X-ray equipment.

OBRA89 specifies a relatively crude method for assigning practice expense to individual services, but the Congress is looking to the Commission to develop more accurate estimates. The Commission is guided by two principles in developing rules to assign practice expense to services. First, it should be assigned so that physicians have neutral incentives to provide one service rather than another. This implies that costs specific to a procedure are identified with it and that general overhead components of practice expense are allocated in proportion to the physician's direct involvement.[3]

Second, practice expense should be assigned to services so that the average physician providing the service recovers his or her practice expense.[4] When the second principle is applied to different practice types, trade-offs between the two principles may be required. Methods for allocating practice costs to services will not affect the aggregate amount of Medicare payment for physicians' services, however, since OBRA89 specifies a budget neutral conversion factor.

The Commission is developing data on practice expense that is specific to services or categories of related services. It has been working with large fee-for-service multispecialty group practices with sophisticated accounting systems that can identify the direct costs of equipment, specialized personnel, and supplies required to provide particular services in physicians' offices or clinics. These data will supplement data from surveys of physicians by providing detail on practice expense for services using specialized resources. Other data, such as the Commission's 1988 Survey of Physicians, the most recent Medical Group Management Association Survey of Group Practices, and planned case studies of smaller practices will be used to adjust the data from the large multispecialty group practices to be representative of medical practice.

---

[3] The physician's direct involvement could be measured either as total time or total work.

[4] Allocating practice expense on the basis of the average practice will, for some services, lead to a payment that will not be high enough to cover costs in all possible settings. The Commission confronted this issue in its report to Congress on the costs of screening mammography (PPRC, 1989b). (Coverage for the service has since been repealed.) It concluded that the Medicare payment for screening would have been adequate to cover costs in specialized mammography centers, radiology practices, or multispecialty group practices, but not the costs of providing the service in the solo practice of a family physician. The Commission decided not to recommend that payments be set high enough to cover the costs in primary care settings. The Commission did recommend higher payments for screening mammography in remote rural areas since efficient use of specialized resources is often not feasible and diffusion of the technology to such areas (through mobile centers) is warranted.

PROFESSIONAL LIABILITY EXPENSE

OBRA89 specifies a separate RVS component for costs of professional liability insurance. The Commission suggested the distinction in order to highlight the magnitude of malpractice insurance costs and to permit application of a method of allocating these costs that differs from that for other practice costs.

Malpractice premiums are determined mostly on the basis of a physician's specialty and practice location. Consequently, a separate component for PLI expense permits assigning these costs according to a physician's specialty as part of a policy that does not otherwise recognize specialty differentials. The mechanism for incorporating PLI expense specified in OBRA89 does not accomplish this, however.

According to the legislation, the malpractice expense component for a service reflects a weighted average of ratios of malpractice premiums to revenues for those specialties that provide the service. But this will cause the average physician in some high-risk specialties to be unable to cover PLI costs since some services (for example, EM services) overlap with those of low-risk specialties.

The legislation anticipates refinement in the method by which PLI costs are paid. Studies have been requested of both the General Accounting Office and the Commission on various options. Among these are assigning PLI costs by risk class of the physician, by type of service, by reimbursing a portion of each physician's premium, and by covering liability claims from Medicare patients through the federal government.

The Commission has not yet developed a recommendation on payment for PLI costs. A chapter in this report outlines the data and administrative requirements of each option and describes the trade-offs among accuracy, efficiency, and administrability. The risk-class option appears to satisfy both of the principles of practice expense assignment. The Commission is attempting to modify the type-of-service option so that the average physician in a high-risk specialty is able to recover PLI costs through the fee schedule. The direct reimbursement tailors the payment to the physician's premium costs, but raises potential administrative problems that require further study. Although the Commission has not yet examined federal provision of coverage, some see this option as a potential vehicle to test tort reform.

DEFINING PAYMENT AREAS FOR THE MEDICARE FEE SCHEDULE

OBRA89 applies geographic adjusters to existing payment localities but directs the Commission to report by July 1991 on alternative payment area configurations. The current payment areas have been chosen by each carrier and reflect a variety of configurations with no consistent philosophy.

The Commission has identified several principles for evaluating alternative payment area configurations. Payment areas should allow for accurately tracking geographic variation in practice input prices, minimize differences in the geographic adjusters across area boundaries, and be simple to administer and understand.

The report presents a preliminary assessment of three major payment area configurations: current carrier charge localities, payment areas for each metropolitan statistical area (MSA) within a state and for the nonmetropolitan counties of each state, and statewide areas.

To put this issue in perspective, it is important to realize that the impact of the geographic adjuster specified in OBRA89 is much larger than the effect of alternative payment area configurations in determining geographic variation in payment rates. Under any of the payment area configurations being considered, geographic variation in payment would be reduced compared with that under the current customary, prevailing, and reasonable (CPR) charge methodology. Using the geographic adjuster will reduce variation across individual localities, as well as overall differences between urban and rural areas.

Data analysis suggests that for alternative configurations, differences in the value of the geographic adjuster for an area are generally moderate. Statewide payment area configurations tend to have smaller differences across boundaries but track differences in practice input prices less well than the other configurations.

Before developing a recommendation on payment areas, the Commission plans to evaluate several combinations and variations of the three principal configurations. For example, the definition of statewide payment areas could exclude those MSA's with populations above some threshold, each of which would have its own adjuster. Alternatively, the current payment areas could be retained except that some of the smaller ones would be consolidated by HCFA. Another option would reconfigure the nonmetropolitan portions of states into two segments, according to population density and proximity to large MSAs. Finally, an urban core could be designated as a payment area separate from the remainder of a large MSA.

ACCURACY OF THE GEOGRAPHIC ADJUSTER IN RURAL AREAS

The geographic practice cost index (GPCI), which is the basis for the geographic adjuster in the Medicare Fee Schedule may not accurately reflect practice costs in rural areas, especially those that are far from major metropolitan areas. The GPCI is an index of relative prices of practice inputs in a payment area. Proxies used for certain components of the GPCI, such as those for salaries of nonphysician employees and office rent, may understate costs in rural areas. The national cost weights used in the index may not reflect cost proportions in rural practice, which could affect the level of the GPCI in rural areas. Finally, the diseconomies of small practices in rural areas are not reflected in the GPCI.

In a hearing specifically devoted to rural practice costs, the Commission listened to testimony on these issues from rural practice consultants, practicing rural physicians, and managers of a large rural group practice with small satellite practices. Much of the information presented suggested that practice costs in rural areas are comparable to those in urban areas and, in some instances, higher. On the basis of this hearing, a number of studies were initiated. These include analysis of alternative proxies for GPCI components, analysis of cost weights for alternative definitions of rural areas, and simulations of GPCIs using alternative cost weights. In addition, the Commission staff is using data from its own physician survey to study the scale economy issue. These analyses, to be completed during the next few months, will provide background for Commission consideration of recommendations for modifying the GPCI or the manner in which it is applied to payment in rural areas.

INTEGRATING ANESTHESIA, RADIOLOGY, AND PATHOLOGY SERVICES INTO THE FEE SCHEDULE

Although OBRA89 stated that relative values should be based on the time and intensity of physician effort as well as practice expense, and PLI costs, it did not specify how these values were to be measured. It did, however, specify a role for existing fee schedules for anesthesia and radiology. While adjustments will be required to make payment for these services consistent with that for other physicians' services, the legislation specifies the use of existing relative values in each of these fee schedules.

The Commission has studied the Uniform Relative Value Guide (URVG) used by Medicare for anesthesia services. Relative values are based on the time and the complexity of the anesthesia procedure.[5] The Commission has concluded that the URVG is resource based and would be suitable for setting the relative payments among anesthesia services. The Commission's remaining task is to propose adjustments to the conversion factors in the URVG so that payments for anesthesia services are in correct relation to payments for other physicians' services. The Commission will also study the implications of the Medicare Fee Schedule and Volume Performance Standards for payment to Certified Registered Nurse Anesthetists.

---

[5] The URVG is based on the 1988 edition of the American Society of Anesthesiologists' *Relative Value Guide* (RVG). The RVG also includes modifiers for the condition of the patient, but these are not used to set Medicare payment.

The Commission has less confidence in the current version of the Radiology Fee Schedule that Medicare has used to pay for the services of radiologists (but not for other physicians performing radiology services) since April 1989. It was developed by the American College of Radiology on the basis of survey data on charges and a magnitude estimation survey that estimated relative complexity. Panels of radiologists modified the relative values on the basis of their personal judgments.

While the Radiology Fee Schedule does have some significant departures from relative values based on charges, the process through which it was developed has both methodological and organizational shortcomings. For example, the charge survey had a low response rate, and the sample for the magnitude estimation study was clearly not representative. Physicians in specialties other than radiology, who account for one-third of radiology services in Medicare, had no role in developing the schedule, and there is some question about the involvement of nuclear medicine specialists.

The Commission has concluded that the Radiology Fee Schedule requires revision before it is incorporated into the overall Medicare Fee Schedule. It plans to develop proposals for revision through its refinement process, which will entail convening an appropriately representative panel of physicians who provide radiology services. The panel will be given relevant information, including the results from the Hsiao study for radiology and nuclear medicine, to consider modifications to the current fee schedule for radiology. More accurate specification of practice costs and technical components for radiology services will draw on the Commission's practice cost studies and, if available, surveys by the American College of Radiology. Once this revision is complete, the Commission will advise the Congress on methods to adjust the radiology relative values so that payments for radiology services are in proper relation to payments for other physicians' services.

Pathology differs from the other two specialties in that there is no existing fee schedule on which to draw. OBRA87 directed the Department of Health and Human Services (HHS) to propose a fee schedule for pathology; a provision of OBRA89 directed HHS to implement a fee schedule by January 1991. But the Commission is skeptical about the prospects of developing a resource-based scale for pathology without drawing on the Hsiao restudy of the specialty. That effort is unlikely to be completed until late 1990.

Implementing such a fee schedule risks delaying achievement of the goal of a resource-based scale. It will cause disruption for pathologists, many of whose 1991 payments would change in a manner that does not bring them closer to resource-based payments. The Commission urges the Congress to reconsider its specification of a separate fee schedule for pathology so that payments for these services can be determined under the Medicare Fee Schedule in the same manner as for most other specialties.

PAYMENT TO LIMITED LICENSE PRACTITIONERS

The Medicare Fee Schedule will apply not only to doctors of medicine (MDs) and osteopathy (DOs) but to physicians referred to as limited license practitioners (LLPs), specifically:

- doctors of dental (oral) surgery or dental medicine;
- doctors of podiatric medicine;
- doctors of optometry; and
- doctors of chiropractic medicine meeting certain educational and licensing standards.

LLPs are heterogenous in terms of training, practice characteristics, and the extent to which their services overlap with those provided by MDs and DOs. The Commission thus chose to make separate recommendations for each type of LLP concerning how to establish payment rates for their services under the fee schedule. Underlying all of these recommendations, however, is the principle that payment should be the same when the service is the same.

Because oral and maxillofacial surgeons were surveyed in the first phase of the Hsiao study, the Commission already has resource-based relative values for their services. In addition, cross-specialty links have been established that permit comparison of intraservice work between oral and maxillofacial surgeons and MD specialties. Therefore, the Commission recommends that oral and maxillofacial surgeons should be paid under the Medicare Fee Schedule, using the same relative values and conversion factors that are applied to MDs and DOs.

To use data on resource costs for MD and DO services to assign relative values for services provided by podiatrists and optometrists requires clarification of several issues. It is not known whether there are significant differences between these LLPs and MDs and DOs in the services provided and billed under the same Current Procedural Terminology (CPT) code developed by the AMA.

Before making recommendations on how to pay these categories of LLPs under the Medicare Fee Schedule, the Commission will convene focus groups to assess whether services billed under the same CPT code are in fact the same. If the services are the same, then payment should be the same. If the services are different, then the Commission will develop recommendations for changes in coding and will suggest how payment for the new code should compare to that for the existing code. Additional data collection may still be necessary to refine relative values for procedures in which LLPs dominate (such as correction of bunion), so that estimates of time and work for their services are valid.

Finally, because of difficulties in linking chiropractic services into the Medicare Fee Schedule, a separate budget neutral fee schedule that incorporates a geographic adjuster should be constructed for the single service (spinal manipulation) that is covered by Medicare.

FINANCIAL PROTECTION FOR BENEFICIARIES

OBRA89 will provide substantial financial protection to most Medicare beneficiaries, reducing balance billing in the aggregate and eliminating balance bills that are very large. The Commission remains concerned about potential adverse effects of balance billing, especially in situations where the beneficiary has no meaningful choice of physician. It plans to monitor closely assignment and participation rates in the Medicare program. It will also continue to analyze the burden of balance billing on beneficiary populations and will recommend further policy changes if appropriate.

The Commission has planned further studies of beneficiary financial liability, relationships with physicians, understanding of assignment and participation, and access to care. It will link Medicare claims data to the survey data collected in late 1988. With this file, it will study costs for assigned and unassigned care among different demographic groups, beneficiary discussion of bills with physicians, and beneficiary willingness to seek out physicians who provide care on an assigned basis. Using a 5 percent sample of beneficiary claims, the Commission will identify tracer services for monitoring access to care and examine the potential of using balance bills as an indicator of access. Commission staff have been participating actively in advising HCFA on the design of the Current Beneficiary Survey, which will be a key data source for monitoring access.

The Commission examined protection of beneficiaries from charge limit violations and from charges denied by carriers because they reflect unacceptable billing practices. The regulations implementing charge limits under the Medicare Fee Schedule must make it clear to carriers, physicians, and beneficiaries that the limits apply to the total Medicare-allowed charge after the carrier has applied any reductions or denials related to unacceptable billing practices. Carriers should monitor compliance with charge limits on each claim as part of their routine claims processing activity and should notify physicians of any suspected violations and their potential consequences.

SETTING MEDICARE VOLUME PERFORMANCE STANDARDS

OBRA89 specifies an annual process in which both HHS and the Commission will make recommendations to Congress on setting the performance standard for the following year. The Commission must comment on the HHS proposal and submit its own recommendations by May 15 each year. In preparation for this task, it has focused on measuring the factors that will be relevant to setting the performance standard. The Commission will draw on all available sources of information in reaching its decisions.

Setting the performance standard is a decision that affects the amount of federal resources devoted to the Medicare program. Since federal resources are limited, the Congress wants Medicare to pay only for those services that constitute appropriate care. The ability to do this is limited in the short run, however, because it is difficult to use payment incentives to slow the growth in volume sharply without reducing access to care. As methods to identify and correct inappropriate utilization are improved, decisions to set the performance standard can more closely reflect objective assessments of appropriate levels of service.

OBRA89 directs HHS and the Commission to assess a range of factors when making recommendations regarding annual performance standards. These include inflation, growth and aging of the Medicare population, changes in technology, evidence of inappropriate utilization, and indications that Medicare beneficiaries lack access to necessary services.

Inflation has been measured by the Medicare Economic Index (MEI), but revision of the indicator is long overdue. The Commission applauds HCFA's recent initiative to improve the MEI and will tailor its own work plans on the MEI according to what is accomplished.

Although accounting for demographic change is relatively straightforward, measuring the effects of changes in technology is difficult. The Commission plans to identify those technologies that are most likely to affect expenditures and to convene an expert panel, comprised of physicians, beneficiaries, and health services researchers to evaluate and augment this information. The panel will consider which technological changes are likely to benefit patients enough to be accommodated in the performance standards.

It is generally agreed that many services are provided inappropriately. AHCPR support for research on effectiveness and the development of practice guidelines will contribute to assessment of the degree of inappropriate utilization. But inappropriate utilization and lack of access to necessary services are defined in a static sense rather than as changes over time. This will make it more difficult to devise a method to adjust the performance standard on the basis of an estimate of the proportion of inappropriate services. To monitor access, the Commission plans to use existing data and the forthcoming Current

Beneficiary Survey to quantify specific access problems and to follow indicators of overall access by the Medicare population.

Currently, the performance standard will encompass physician services and other services, such as clinical laboratory diagnostic tests that are commonly performed by physicians or in physicians' offices.[6] To provide more options for physicians to respond to the VPS incentives, the scope of included services could be expanded to include other Medicare Part B services that are ordered by physicians or inpatient services. A decision to broaden the application of VPS should await further improvements in the Medicare data system and some experience with the current scope of included services, however.

SUBNATIONAL VOLUME PERFORMANCE STANDARDS

As an alternative to a national VPS, subnational standards could focus incentives for controlling the volume of services on groups of physicians that are smaller, more cohesive, and better organized. Such groups are better positioned to influence their members' practice patterns. Since physician education and practice guidelines are largely the province of specialty societies, standards might be constructed by specialty or by type of service. Since organizations that conduct peer review tend to be constituted by state, standards might be established for each state. Whether determined by state or by specialty, the subnational standard would be set in light of the need to match responsibility for expenditures with the control the entity exercises over them. But difficult conceptual and technical problems must be confronted with either type of subnational standard.

Current legislation calls for establishing separate performance standards for surgery and for all other services, but this may prove difficult. First, setting a performance standard for surgery requires an informed judgement about differences in the appropriate growth rate of spending for this versus other medical services, which is beyond current capabilities. Second, differential fee updates may drive relative values for procedures away from a resource basis, potentially sacrificing a key goal of the payment reform. Third, having separate performance standards for surgery and for all other services would leave a category of services without a cohesive set of specialties potentially capable of responding in a coordinated manner.

Given these difficulties, evidence that surgeons' organizations have taken substantial steps to improve and expand educational and peer review efforts should be a prerequisite for continuing a separate performance standard for surgery. Separate standards for narrower categories of services, such as the services performed by a single subspecialty, should not be considered until the problems with standards for surgery are resolved.

---

[6] Certain services that meet this definition, such as diagnostic tests in hospital outpatient departments, have been excluded from the VPS policy because Medicare carriers do not process these claims.

State-level standards confront a different set of problems. Current state-level expenditure data for Part B are neither accurate nor timely enough to use in calculating payment updates. These data show highly variable rates of growth from year to year. The consistency and accuracy of data reporting should be reassessed once HCFA's new Common Working File claims reporting system is fully operational, before the end of 1990.

Setting objective differential standards by state rather than by specialty is closer at hand. Differential standards could be used to reduce the magnitude of variation in per-enrollee expenditures across regions of the country. But the question of how much and how quickly these differences should be reduced is a difficult one, both technically and politically. Since state-level standards are not technically feasible at this time, there is little reason to make a quick decision. While the overall issue is studied, however, state-level performance standards could be implemented on a waiver basis in response to requests from states experimenting with broad policies to contain costs, such as all-payer systems of physician payment.

PHYSICIANS' ALTERNATIVES TO VOLUME PERFORMANCE STANDARDS

An alternative mechanism to focus cost containment incentives on narrower groups of physicians would be to develop separate performance standards for voluntarily formed groups of physicians. OBRA89 directs HHS to develop a plan for such carve outs, but requires Congressional approval before it can be implemented.

Since 1985 Medicare has provided an option for groups of physicians to have Medicare payments based in part on their success in limiting utilization. Under Medicare risk contracting with health maintenance organizations (HMOs), such health plans are paid 95 percent of the amount that Medicare estimates it pays for fee-for-service care in the local community. These HMOs are already excluded from the VPS policy.[7]

The Commission believes that energies would be better spent on improving the existing HMO risk-contracting option than on devising carve-out group options. In previous reports, it has made recommendations to Congress on aspects of Medicare risk contracts. In the near future, the Commission will consider a number of policy changes to make this option more attractive to beneficiaries, HMOs, and the Medicare program. These include refining the payment mechanism to reflect the medical needs of those enrolling in each plan more accurately, increasing financial incentives to beneficiaries to enroll, and modifying requirements that health plans must meet in order to qualify.

---

[7] HMOs are indirectly affected by the VPS policy, however, since their payment continues to be based on Medicare's experience in fee for service.

The Commission considered a number of ways in which a VPS carve-out system could be designed but none appears workable. One serious problem concerns how to determine whether a group has kept expenditure growth within its performance standard. This requires attributing service use by each beneficiary to a specific group. If attribution were through enrollment, the group would have to offer beneficiaries an economic incentive to enroll and would incur marketing expenses. The potential rewards to the group of physicians would probably not be large enough to offset these costs. Alternatively, beneficiaries could be assigned to a physician group statistically on the basis of which physicians they use. This, too, would create a number of complex issues, including where to assign beneficiaries who do not use services at all and how to assign those who use both physicians in the group and outside the group.

Once beneficiaries were assigned to carve-out groups, difficulties would also be encountered in comparing performance standards with expenditure increases for each group. The relatively few beneficiaries in many of these groups would cause variations in expenditures related to incidence of illness to overshadow the group's efforts to manage care.

THE FEDERAL GOVERNMENT'S ROLE UNDER VOLUME PERFORMANCE STANDARDS

The success of the VPS system will depend upon the extent to which physicians work cooperatively with the research community and the Medicare program to identify and control unnecessary and inappropriate services. The payment reform legislation helps physicians meet this challenge by giving HHS and its contractors new responsibilities for analyzing utilization trends and by providing information to physicians on possible utilization problems. It also requires carriers to monitor and profile physicians' billing patterns and provide comparative data to physicians whose utilization patterns vary significantly from those of their peers. To advise the Congress on how to realize the full potential of these tools, the Commission plans to study mechanisms of profiling physicians and methods of using the information developed.

Unfortunately, carrier budgets for medical review activities have been unstable and increasingly inadequate. Solving this problem will likely require changes in the method by which carrier funding is treated in the Congressional budget process. The problem is that carrier funding needs are largely determined by Medicare beneficiaries' use of services and increased review responsibilities mandated by the Congress. Yet carrier budgets come from a discretionary (nonentitlement) account. This means that funding for administration of Medicare must compete with numerous nondefense programs, such as education and biomedical research, for extremely limited resources. The process should be revised so that baseline budget levels for carrier activities reflect projected increases in claims. Funding for additional review activities that will reduce spending for benefits should not be subtracted from what is available for other nondefense discretionary programs.

AHCPR will also play a crucial role in developing the knowledge base required to support a VPS system. In addition to its other broad responsibilities for the study of medical effectiveness and development of practice guidelines, the agency has been charged with promoting and supporting the development and dissemination of review criteria and performance measures to be applied by review organizations. AHCPR and other HHS agencies should give priority to developing systems for both profiling physician practices and disseminating information on patterns of utilization to researchers, professional organizations, and individual physicians.

LEGAL IMPEDIMENTS TO PHYSICIAN EFFORTS TO INCREASE APPROPRIATENESS OF CARE

Physicians have raised concerns about legal impediments to the development and use of practice guidelines and physician participation in utilization review. The Commission consulted with a wide range of attorneys expert in antitrust law and medical malpractice. It also drew on the recently completed AMA study of the legal implications of practice parameters (American Medical Association, 1990). The Commission concluded that the risk of antitrust suit for a medical professional organization that develops and disseminates guidelines is slight as long as the organization follows reasonable procedures in doing so. It decided not to recommend legislation to provide additional protection for these activities.

Concerning malpractice, increased availability of practice guidelines and review criteria is not likely to pose practitioners with additional risks of a suit. Guidelines are likely to make determinations of negligence more accurate and reduce the incidence of unfounded suit, so that the system will function somewhat more efficiently. However, the major problems with the malpractice system will not be addressed through practice guidelines.

Currently available research suggests that the tort system neither reliably compensates those injured through medical negligence nor reliably disciplines negligent physicians. The system is expensive, in that a large portion of physicians' PLI costs do not go to injured patients. Defensive medicine is a factor in high medical costs and sometimes interferes with physician-patient relationships. A number of studies that are under way will provide the Commission with needed information to develop alternatives for reforming the malpractice system. In the coming year, the Commission will consider the evidence and review alternatives for reform.

PHYSICIAN PAYMENT IN MEDICAID PROGRAMS

There is growing concern about physician payment rates under the Medicaid program. Low fee levels may discourage physicians from treating Medicaid patients, thereby limiting beneficiary access to mainstream medical care. OBRA89 directs the Commission to examine the adequacy of physician payment, physician participation, and access to care by Medicaid beneficiaries. The study and accompanying recommendations are due by July 1, 1991.

To begin its work, the Commission has conducted background research on state Medicaid program characteristics, focusing on physician payment methods. It has also reviewed previous research studies that analyzed how Medicaid fee levels affect beneficiary access to care and program expenditures.

The Commission has developed a research plan for the coming year. These activities include:

- collecting additional descriptive information on Medicaid physician payment through a contract with the National Governors' Association to survey state Medicaid programs;
- conducting analyses on how fee levels appear to affect both the use of Medicaid services and Medicaid program expenditures;
- analyzing the experiences of states that have changed physician fee levels to determine how these changes appear to have affected access and expenditures; and
- modelling the effects of alternative policy changes.

These activities will provide the Commission with much of the information necessary to develop recommendations to Congress on the reform of Medicaid physician payment policies.

The Commission recognizes that it will also be important to draw upon the experience of state Medicaid officials. The states have already experimented with various approaches to improve access to physician care under Medicaid. Some states have decided to increase physician payment to improve beneficiary access. Others have found different approaches, such as expanding managed care options and reducing administrative burdens, to be more effective.

REFERENCES

American Medical Association, *Legal Implications of Practice Parameters*, in press, Chicago: American Medical Association.

Hsiao, W.C., P. Braun, E. Becker, et al., *A National Study of Resource-Based Relative Values Scales for Physician Services: Final Report*, Harvard School of Public Health, September 1988.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989a.

Physician Payment Review Commission (PPRC), *The Costs of Providing Screening Mammography,* Report to Congress No. 89-2, Washington, D.C., 1989b.

CHAPTER 1

THE CONTEXT FOR REFORM

When the Physician Payment Review Commission began its work in November 1986, Medicare's method of physician payment was under fire from policymakers, physicians, and beneficiaries. Medicare outlays to physicians had been growing at double-digit rates for years, placing an increasing burden on taxpayers and beneficiaries who share in the financing of Medicare program costs. The program's method of paying physicians on the basis of their historical charges had led to severe distortions in the pattern of relative payment across different physician specialties, services, and geographic areas. And concern was growing about the increasing out-of-pocket costs facing Medicare's 33 million elderly and disabled beneficiaries and their ability to obtain quality medical care.

In 1990 these issues--the lack of a rational basis for physician payment, escalating program costs, and concerns about access and quality of care--remain at the heart of physician payment reform. But the context for reform is changing. In November 1989 the Congress approved legislation creating a new payment system that many regard as one of the most sweeping reforms of the U.S. health care system since the enactment of Medicare over a quarter century ago. This new system, based on the Commission's recommendations in its 1989 report, consists of a resource-based fee schedule, clear limits on the amount physicians may charge patients above the fee schedule amount, and Volume Performance Standards (VPSs) to control expenditure growth. Also included is expanded federal support for effectiveness research and the development of practice guidelines. Chapter 2 contains a detailed description of the physician payment reform legislation of 1989.

The passage of these reforms in the Omnibus Budget Reconciliation Act of 1989 (OBRA89; P.L. 101-239) was remarkable in both its accommodation of conflicting interests and its rapid advance through the legislative process. Although there had been strong agreement on the need for change, there was far less agreement on how it should be accomplished. Yet in only a few short months, consensus was reached that balanced the needs of policymakers, physicians, beneficiaries, and other taxpayers.

This chapter provides a context for understanding the different and sometimes competing concerns that have shaped the Commission's and the Congress' approach to payment reform. Three themes--rationalizing payment, controlling program costs, and maintaining access to high quality medical care--provide a framework for understanding the 1989 payment reform legislation and the recommendations proposed by the Commission in this report to the Congress.

CREATING A RATIONAL BASIS FOR PHYSICIAN PAYMENT

The primary motivation for payment reform has been to replace Medicare's method of payment based on historical charges with a more rational and equitable pattern of relative payment. A pattern of payment that favors certain practice styles offers financial incentives that can influence physicians' choice of specialty and practice location, as well as physicians' and beneficiaries' decisions about care.

The Customary, Prevailing, and Reasonable System

Since its inception, Medicare has paid for physician services through a complex method referred to as customary, prevailing, and reasonable (CPR). Using this method, the payment rate for each service is determined by what the physician has charged in the past (customary) and what other physicians in the locality and specialty charge (prevailing). The reasonable, or allowed, charge is the lowest of the actual charge, the customary charge, or the prevailing charge.

Initially, the CPR methodology was adopted because it afforded physicians sufficient price flexibility to reflect variations in practice styles and in patient preferences. It also offered flexibility to Medicare carriers to set payment rates to reflect local markets. Ironically, however, this reliance on historical fee patterns resulted in a system of pricing that was inequitable to many physicians and patients. Over the years, wide payment differentials were perpetuated among types of procedures, localities, specialties, and sites of service that could not be explained by differences in the cost of physicians' practices.

Two distortions maintained under the CPR system are particularly noteworthy. First, surgical and technical procedures are overpaid relative to visits and consultations. Second, two physicians who provide identical services may receive markedly different payments because fees are based on the individual physician's past charges.

CPR is so complex that physicians and patients can seldom predict the level of charges Medicare will ultimately approve. Insurance carriers have also commented that the system is difficult to understand and costly to administer.

Policy Changes to Rationalize Payment

In the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), the Congress began to take steps to realign the pattern of payments to physicians. Applying the concept of inherent reasonableness, it authorized the Secretary of Health and Human Services (HHS) to identify services for which allowed charges were out of line with relative costs and to depart from the CPR methodology in adjusting payments for those services. In addition to providing a mechanism to change payments for selected services, it created a framework for more comprehensive reform. COBRA directed HHS to develop a resource-based relative value scale. It also created the Physician Payment Review Commission to advise the Congress on changes in the method of paying physicians under Medicare.

In 1986 the Congress used the principle of inherent reasonableness to reduce payments for cataract surgery and anesthesia during cataract surgery to achieve budget savings. This marked the first step in the Congress' use of the budget process to further the policy goal of developing a more rational payment system. By achieving budget savings through singling out services that were relatively overpaid, the Congress altered relative payments in the direction of a scale based on resources.

In 1987 the Congress took further steps in the direction of resource-based payment by specifying payment reductions for 12 families of procedures considered to be overvalued. These procedures were deemed overvalued based on a comparison of several relative value scales, that were based in part on resources, with a computed scale of Medicare prevailing charges (PPRC, 1988).

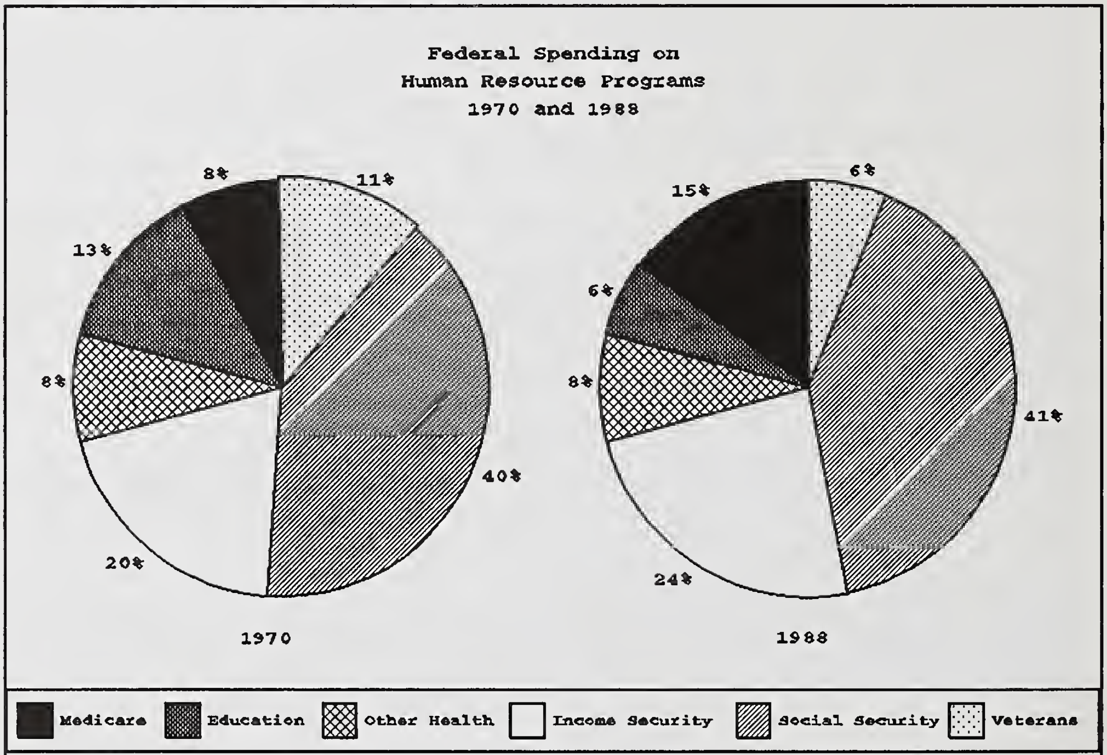
These interim approaches were used while the Congress awaited the development of a relative value scale that would pay physicians based on the resources, including their time and work, involved in providing a service. In its 1989 report to the Congress, the Commission recommended that the CPR system be replaced with a Medicare Fee Schedule based primarily on resource costs. As part of OBRA89, the Congress followed this recommendation. A resource-based fee schedule will replace the current payment system beginning in 1992.

CONTROLLING PROGRAM COSTS

Between 1980 and 1989 Medicare costs per enrollee for physician services almost tripled, increasing from $376 to $1,042 (Board of Trustees, 1989). This far surpasses rates of inflation and consumes a substantial and growing amount of both public and private resources. At a time when federal policymaking has been driven by concern about the size of the federal budget deficit, this rapid increase in Medicare program costs stimulated action on physician payment reform.

To appreciate the significance of this cost problem in shaping the payment reform debate, it is necessary to understand the importance of budgetary pressures that shape Congressional action and the reasons why Medicare, and Part B physician services in particular, have been targeted for budget cuts. Each year, the federal budget process sets the stage for weighing competing social needs. After Congress establishes an overall spending limit in its budget resolution, spending levels for specific programs are set by various Congressional committees to conform to the overall limit. The level of Medicare funding therefore is constrained by decisions about funding levels for other priorities such as education, income security, and veterans' benefits (Figure 1-1).

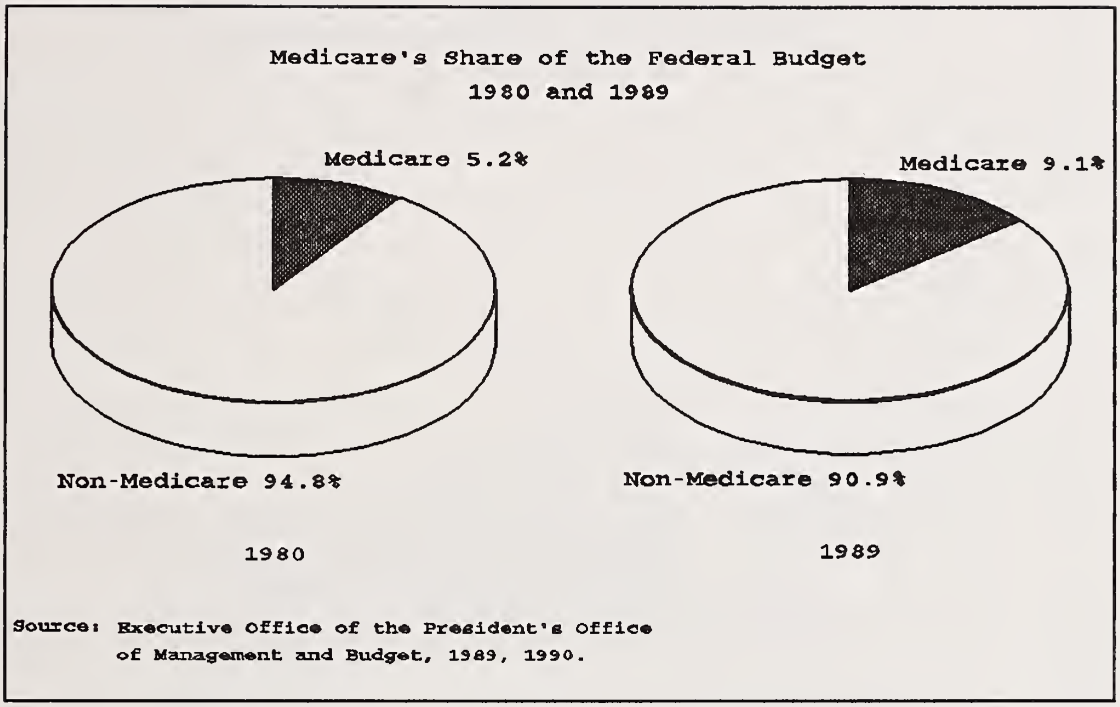
Figure 1-1.



Source: U.S. Congress, Congressional Research Service, 1989a.

Notes: a) Education includes job training and social services.
b) Other Health includes Medicaid, block grants, and funding for NIH, OSHA, and FDA.
c) Income Security includes non-Social Security retirement and disability programs, unemployment compensation, and low-income food, housing, and cash assistance.

Figure 1-2.



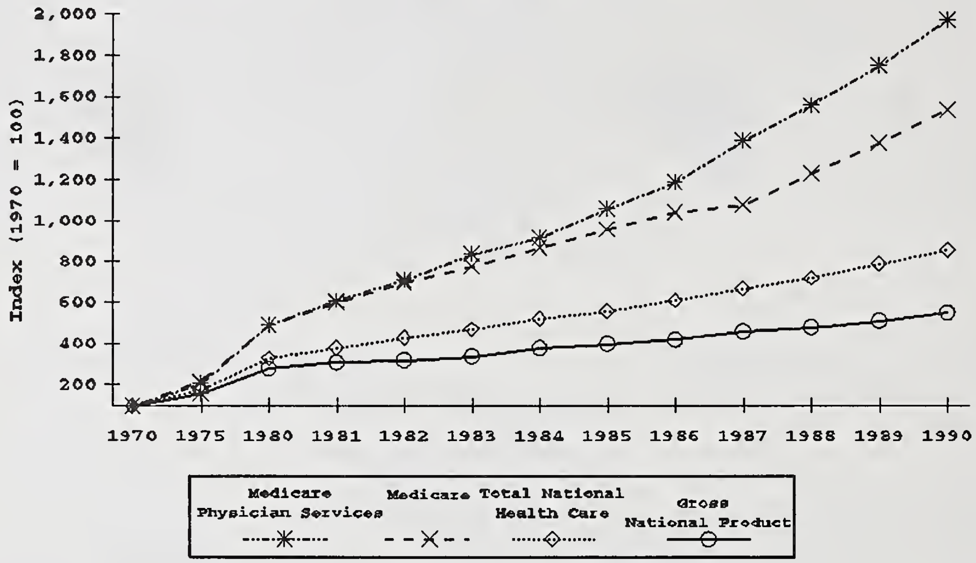
Medicare's Share of the Federal Budget
1980 and 1989

Source: Executive Office of the President's Office of Management and Budget, 1989, 1990.

During the 1980s Medicare accounted for a rapidly expanding share of the federal budget, growing from about 5 percent at the beginning of the decade to 9 percent at its close (Figure 1-2). Medicare benefit payments amounted to over $85 billion in 1988. Since the early 1970s, the program's average annual rate of growth exceeded growth in consumer prices, wages, gross national product, and national health expenditures (CRS, 1989b) (Figure 1-3). If this growth continues unabated, spending for Medicare will outstrip spending for defense and Social Security combined by the year 2012.

Figure 1-3.

Gross National Product and Expenditures for Medicare, Medicare Physician Services, and Total National Health Care
1970 - 1990



Source: Health Care Financing Administration, Office of the Actuary.

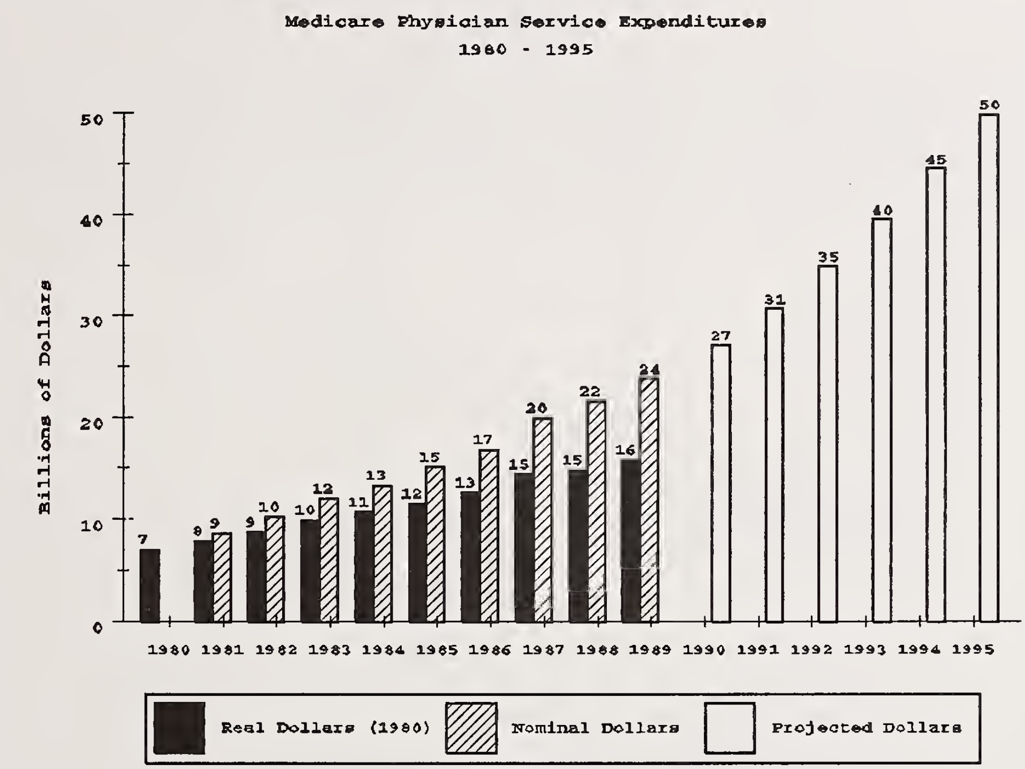
Note: Values for 1988 - 1990 are estimates.

High rates of expenditure growth have made Medicare a prime target for budget savings, and the rapid rise in expenditures for physician services have made that portion of Medicare a particular target.[1] Part B expenditures--of which 73 percent are for physician services--grew more than three times faster than expenditures for Part A between 1985 and 1989 (CRS, 1989b) (Figures 1-4 and 1-5). Total Part B outlays nearly doubled between 1983 and 1988, growing about 30 percent faster than the economy as a whole (Board of Trustees, 1989).

---

[1] Medicare is divided into two parts that pay for different services and are financed by different sources. Part A, the Hospital Insurance program, provides inpatient hospital coverage, limited home care, and skilled nursing benefits. Part B, the Supplementary Medical Insurance (SMI) program, covers the cost of physician services, clinical laboratory tests, durable medical equipment, and outpatient hospital care. Part A is financed primarily by payroll taxes while Part B is funded through general revenues and monthly premiums paid by enrollees.

Figure 1-4.



Medicare Physician Service Expenditures
1980 - 1995

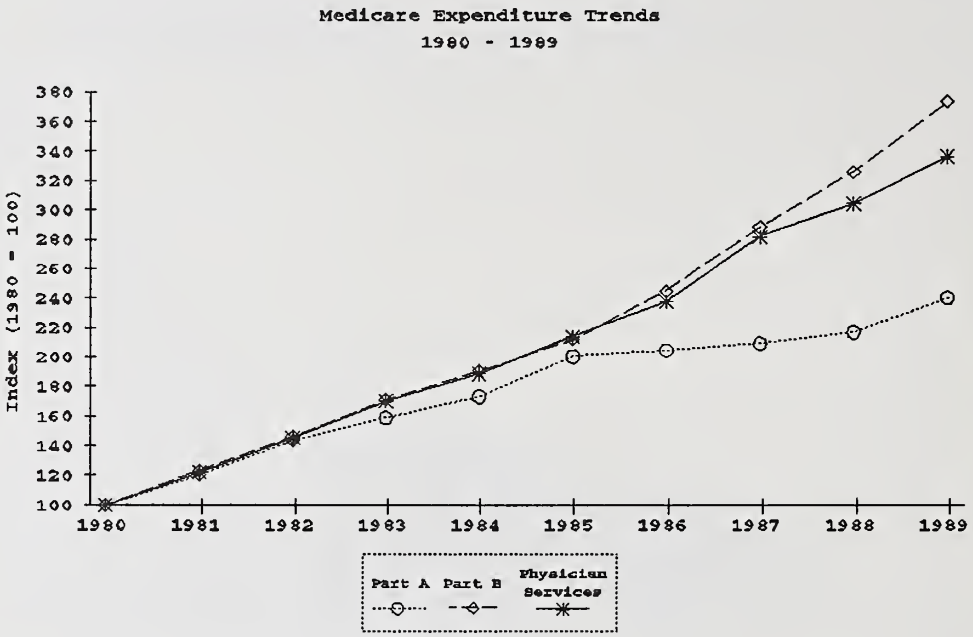
Source: Health Care Financing Administration, Office of the Actuary, 1990.

Note: "Physician Service" excludes durable medical equipment, laboratory services, and other supplier services.

Components of Growth

Several factors explain the high rate of Part B expenditure growth. These include increases in the number and average age of enrollees, increases in physician fees, and increases in the number and intensity, or volume, of services. Of these three factors, changes in the number and average age of Medicare enrollees have had the smallest effect on growing expenditures. During the 1980s enrollment and other demographic changes accounted for about 2 percent of annual Part B growth (CRS, 1989b). From 1980 to 1984 increases in physicians' fees contributed about 9 percent to expenditures for physician services per enrollee, while volume contributed about 7 percent. The relative contribution of price and volume changed during the period of 1984 to 1988 to about 2 and 6 percent respectively (Table 1-1).

Figure 1-5.



Sources: Board of Trustees, 1989; Health Care Financing Administration, Office of the Actuary.

Notes: a) Figures for 1989 are estimates.
b) "Physician Services" excludes durable medical equipment, laboratory services, and other supplier services.

Increases in the volume of physician services may reflect the introduction and diffusion of technology and changes in billing practices such as billing separately for services previously bundled together. It may also reflect heightened patient demand due to broader dissemination of health care information and slowed growth in beneficiary out-of-pocket costs, specifically balance bills, after 1984. Finally, some portion of growth in Part B volume may be attributable to the Prospective Payment System (PPS). The effect of this financing reform was to shift many services out of the hospital into outpatient settings resulting in increased Part B payments to hospital outpatient departments, independent laboratories, and to a lesser extent, physicians' offices (CRS, 1989b).[2]

---

[2] For example, the battery of tests that is often required at the time of admission to a hospital was in the past performed after admission to the hospital. Since the implementation of PPS, many of these tests are performed on an outpatient basis and are covered under Part B.

Table 1-1. Components of Increases in Recognized Charges Per Enrollee for Physician Services, 1980-1989 (in percent)

Year Ending June 30	Price Allowed Charges	Residual Factors	Total
1980	8.6	7.6	16.8
1981	7.7	8.3	16.6
1982	10.8	5.6	17.0
1983	8.9	9.9	19.7
1984	7.2	4.1	11.6
1985	0.8	2.3	3.1
1986	0.0	9.8	9.8
1987	4.4	7.5	12.2
1988	4.3	6.2	10.8
1989	2.5	5.2	7.8

Source: 1989 Annual Report of the Board of Trustees of the Federal Supplementary Medical Insurance Trust Fund.

Notes: a) The effects of enrollment and price can be measured directly. The effect of volume is the net residual after accounting for growth in enrollment and price.

b) Figures for 1988 and 1989 are projections.

A recent study by the Congressional Research Service concluded that a handful of services accounted for a large share of increased expenditures for Part B physician services during the period 1985-1987. Six groups of procedures including cataract surgery, visits and consultations, diagnostic radiology, dermatologic surgery, and gastrointestinal endoscopies accounted for about half of the change in expenditures due to volume (Table 1-2).[3]

---

[3] The interaction of price and volume are notable for cataract surgery. Between 1985 and 1987, fees for cataract surgery were controlled--first by the fee freeze and then by inherent reasonableness reductions. Even so, and despite its large share of total allowed charges, cataract surgery accounted for only one percent of the increase in expenditures due to price, but 22 percent of the increase due to volume changes (CRS, 1989b).

Table 1-2. **Procedure Groups Accounting for 50 Percent of Total Growth in Allowed Charges due to Net Residual, 1985-1987**

Procedure Group	Percent
Cataract Surgery	22
GI Endoscopies	8
Visits	7
Consultations	4
Diagnostic Radiology	4
Dermatologic Surgery	4

Source: U.S. Congress, Congressional Research Service, 1989c.

Note: Visits exclude hospital and ophthalmology visits.

Policy Changes to Control Costs

Signs of rapid growth in Part B expenditures were apparent in the program's early years. In 1972 legislation was enacted that limited increases in Medicare prevailing charges to increases in the Medicare Economic Index.[4] This constraint alone left expenditure growth unacceptably high, however, as Part B payments per enrollee continued to grow at an annual rate of 17 percent from 1975 to 1982, more than twice the general rate of inflation (CBO, 1986). Beyond this effort to limit increases in physicians' fees, Part B physician payment was essentially untouched until 1984.

In 1984 the Congress took a stronger step to limit spending by freezing fees for physician services. The freeze was originally intended to last 15 months (July 1984 to September 1985). It was extended, however, through April 1986 for all physicians and until January 1, 1987, for physicians who opted not to join the Participating Physician and Supplier (PAR) program (discussed below).

---

[4] Annual increases in the Medicare Economic Index are based on increases in physician practice costs and in general earnings levels.

Research on the effects of the fee freeze in slowing expenditure growth has been inconclusive. Mitchell (1989) reported nearly a 30 percent increase in expenditures for physician services between 1983 and 1986, suggesting that physicians increased volume in response to the freeze. But the implied volume increases may have been a continuation of previous trends. Even if the freeze succeeded in slowing growth in Part B spending, controlling growth entirely through price controls may not be sustainable without limiting access. Recognizing that over the long run a direct measure to contain volume of services was necessary, the Commission recommended a plan for national expenditure targets to serve as a collective incentive for physicians to slow expenditure growth. OBRA89 followed this concept in its provisions on Volume Performance Standards. Chapters 11 through 14 are devoted to implementation of the VPS policy.

MAINTAINING ACCESS TO QUALITY MEDICAL CARE

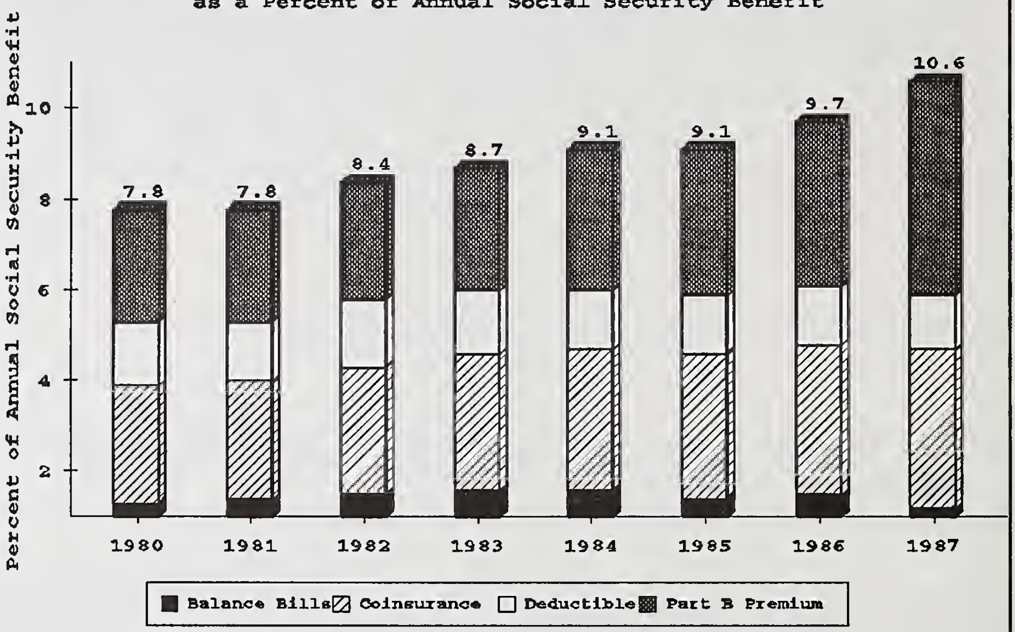
Medicare beneficiaries have a strong interest in controlling program costs. But beneficiaries have also brought concerns about access and appropriateness of care to the discussion of payment reform.

Medicare, along with Social Security and private pension benefits, plays a major role in ensuring the elderly's financial security. This financial protection has been weakened, however, by continued growth in expenditures that has raised beneficiaries' out-of-pocket spending. Increases in Medicare beneficiary costs--including Part B monthly premiums, deductibles, copayments, and liabilities for balance bills--have outpaced increases in Social Security cost-of-living adjustments (Figure 1-6). These increases come on top of other substantial out-of-pocket expenses borne by older Americans. Among these expenses are Part A deductibles and coinsurance, premiums for supplemental insurance policies, and expenses for services not covered by Medicare such as prescription drugs, eyeglasses, and long-term care (Table 1-3).

In addition to a real increase in out-of-pocket expenses, the current payment system has had two other potentially adverse effects on beneficiaries. It has provided financial incentives to physicians both to perform expensive technical procedures rather than to spend time examining and counseling patients and to provide services that may be of minimal benefit or pose some risk to the patient. Reducing unnecessary services and procedures while providing incentives for appropriate treatment could improve quality of care.

Figure 1-6.

Beneficiary Out-of-Pocket Costs for Medicare Part B
as a Percent of Annual Social Security Benefit



Sources: Social Security Administration, 1989; Edwards and Fisher, 1989.

Note: Balance bill and coinsurance amounts reflect costs for physician services and non-institutional suppliers only.

Table 1-3. Cost-Sharing Under Medicare, 1990

	Beneficiary Liability
Medicare Part A	
Hospital deductible	$592 per spell of illness
Hospital coinsurance	
Days 61-90	$148 per day
Days 91 on (for 60 lifetime reserve days)	$296 per day
Skilled nursing facility coinsurance	
Days 21-100	$78 per day
Medicare Part B	
Premium	$28.60 per month
Deductible	$75.00 per year
Coinsurance	20% of Medicare allowed charges
Balance Bills	All excess up to MAAC on unassigned claims

Source: U.S. Congress, House of Representatives, 1989.

Policy Changes to Limit Beneficiary Financial Liability

While the fee freeze provided beneficiaries with some relief from rising costs, the creation of the PAR program was a more substantial effort to protect beneficiaries. Under the PAR program, physicians signing a participation agreement accept the Medicare charge as payment in full on all claims, forgoing the opportunity to bill patients any additional amount. In return for this practice of accepting assignment across-the-board, participating physicians were permitted to raise actual charges during the fee freeze. This created a payment differential between PAR and non-PAR physicians that was made permanent in 1986. OBRA87 expanded this differential slightly so that prevailing charges for PAR physicians are now 5 percent higher than those of non-PARs. PAR physicians also have the benefits of being listed in a participating physicians' directory available to beneficiaries and expedited claims processing.

This policy change increased financial protection to beneficiaries as assignment rates increased dramatically from 56.5 percent to 80.5 percent between 1983 (just before the inception of the PAR program) and 1988. Much of the increase appears to be attributable to the establishment and growth of the PAR program. Services provided by PAR physicians now account for more than 60 percent of total Medicare spending on physician services, and 80 percent of allowed charges are accepted on assignment.[5] These changes have not affected all beneficiaries uniformly, however, because assignment and participation rates vary considerably by state, by specialty, and by individual physician (Tables 1-4 and 1-5). As a result, individual beneficiaries may continue to have difficulty obtaining assigned care.

The amount non-PAR physicians can bill in excess of the Medicare approved charge has been limited by the maximum allowable actual charge (MAAC) limits created by OBRA86. Using a complex methodology, physicians with charges exceeding 115 percent of prevailing charges for non-PAR physicians may increase their charges by only 1 percent annually. For physicians whose charges are less than 115 percent of the prevailing, MAACs allow actual charges to increase up to the 115 percent limit. In 1989 the Commission recommended that charges for unassigned claims be limited to a fixed percentage of the Medicare Fee Schedule amount. The Congress adopted this recommendation in OBRA89 replacing MAACs with a simpler and more stringent limitation on how much physicians can charge above the allowed amount.

Policy Changes to Improve Quality of Care

In the past, few policy initiatives have focused on improving the quality and appropriateness of care received by Medicare beneficiaries. This will change under OBRA89. First, the Medicare Fee Schedule changes financial incentives that will encourage physicians to spend more time with patients during visits and consultations. Second, substantial resources will be committed to improving knowledge on the effectiveness of specific medical procedures and treatments, as well as the development and dissemination of practice guidelines under the auspices of the new Agency for Health Care Policy and Research.

---

[5] Nonparticipating physicians may accept assignment on a claim-by-claim basis, but are not afforded any of the benefits of the PAR program.

Table 1-4. Participation Rates by Specialty

Specialty	Participation Periods 10/85-4/86	5/86-12/86	1/87-3/88	4/88-12/88	1/89-12/89
Cardiovascular	35.6	38.8	43.2	52.8	55.5
General Surgery	33.9	34.5	37.2	48.5	52.2
Pathology	39.6	37.7	41.2	48.1	50.6
Ophthalmology	27.3	28.7	35.1	46.3	50.5
Radiology	41.3	39.5	39.8	46.3	49.6
Neurology	34.8	33.2	39.2	44.1	49.2
Orthopedic Surgery	29.0	38.3	32.6	44.0	49.2
Dermatology	34.0	37.8	38.1	45.7	48.7
Urology	27.8	29.0	30.9	41.7	45.6
Internal Medicine	32.5	31.1	33.6	41.2	45.2
Obstetrics/Gynecology	29.1	30.5	31.5	40.4	44.2
Otolaryngology	24.6	25.1	27.0	36.9	41.2
Family Practice	25.5	27.1	27.1	35.6	39.7
Psychiatry	30.0	27.8	28.6	34.4	37.8
General Practice	27.3	23.6	25.6	32.3	35.8
Anesthesiology	21.1	21.7	20.3	25.0	28.3
All Physicians	**30.8**	**31.5**	**33.2**	**41.5**	**45.2**

Sources: U.S. Congress, House of Representatives, 1989; Health Care Financing Administration.

Table 1-5. Assignment Rates by Specialty (Percent of Allowed Charges)

Specialty	1985	1986	1987
Psychiatry	81	81	85
Gastroenterology	74	76	80
Thoracic Surgery	68	66	79
Ophthalmology	65	69	79
Pathology	69	75	78
Radiology	69	68	76
Neurology	67	70	76
Cardiovascular	67	71	76
General Surgery	73	65	72
Dermatology	64	63	72
Internal Medicine	62	63	71
General Practice	59	62	69
Family Practice	60	61	69
Neurosurgery	57	66	65
Obstetrics/Gynecology	54	52	65
Urology	55	55	64
Orthopedic Surgery	55	57	63
Otolaryngology	56	54	63
Anesthesiology	51	57	57

Source: Medicare Participating Physician/Supplier Claims Workloads Reports and Reasonable Charge and Denial Reports; 1986 BMAD Provider File, and Bureau of Data Management and Statistics, Health Care Financing Administration.

THE CHANGING CONTEXT FOR REFORM

The themes and policy changes discussed here provide a backdrop for the major legislative changes brought about by OBRA89 and the steps to be taken in its implementation. Almost certainly, these same themes will continue to shape the new payment system and the changing context for reform. The Commission's analysis and recommendations in this report outline some of the major policy and operational challenges ahead.

REFERENCES

Board of Trustees, Federal Supplementary Medical Insurance Trust Fund, *1989 Annual Report of the Board of Trustees of the Federal Supplementary Insurance Trust Fund*, Washington, D.C., 1989.

Edwards, W.O. and C.R. Fisher, "Physician Charges and Utilization Trends," *Health Care Financing Review* 11(1):117-123, Fall 1989.

Mitchell, J.B., G. Wedig, and J. Cromwell, "The Medicare Physician Fee Freeze," *Health Affairs* 8(1):21-33, Spring 1989.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1988*, Washington, D.C., 1988.

Social Security Administration, *Annual Statistical Supplement*, Washington D.C., years 1982-89.

U.S. Congress, Congressional Budget Office (CBO), *Physician Reimbursement Under Medicare: Options for Change*, Washington, D.C.: U.S. Government Printing Office, April 1986.

U.S. Congress, Congressional Research Service (CRS), *1990 Budget Perspectives: Federal Spending for the Human Resource Programs, 1965-1988*, 89-87 EPW, prepared by G. Falk and K. Hurt, Washington, D.C., February 2, 1989a.

U.S. Congress, Congressional Research Service (CRS), *Medicare: Its Use, Funding, and Economic Dimensions*, 89-134 EPW, prepared by D. Koitz, J. Reuter, and M. Merlis, Washington, D.C., March 1, 1989b.

U.S. Congress, Congressional Research Service (CRS), *Prospective Budgeting for Medicare's Physician Services*, 89-600 EPW, prepared by K. Cahill, J. Reuter, K. Langwell, and R. Shin, Washington, D.C., October 31, 1989c.

U.S. Congress, House of Representatives, Committee on Ways and Means, *Background Material and Data on Programs Within the Jurisdiction of the Committee on Ways and Means*, Washington, D.C.: U.S. Government Printing Office, 1989.

CHAPTER 2

THE 1989 PHYSICIAN PAYMENT REFORM LEGISLATION

In its first report to Congress in March 1987, the Commission described the goals that should guide the reform of physician payment in the Medicare program. They included maintaining financial protection for beneficiaries, improving equity among physicians, containing the costs of physicians' services to taxpayers and beneficiaries, and simplifying administration. As part of the Omnibus Budget Reconciliation Act of 1989 (OBRA89; P.L. 101-239), the Congress enacted a comprehensive reform of Medicare physician payment that went a long way toward meeting these goals.

The payment reform legislation includes four main elements that are interrelated both substantively and politically. Medicare's reasonable charge method of determining payment amounts will be replaced by a resource-based fee schedule in 1992. To provide financial protection to beneficiaries, the cumbersome and complex system of maximum allowable actual charge (MAAC) limits will be replaced by a uniform charge limit that is a percentage of the fee schedule amount. The fee schedule conversion factor, which attaches dollar amounts to relative values, will be updated on the basis of Medicare Volume Performance Standards (VPS). Finally, the legislation created a program for research on effectiveness of medical services and development and dissemination of practice guidelines. The program will be administered by the new Agency for Health Care Policy and Research (AHCPR).

The legislation closely reflects most of the recommendations developed last year by the Commission in its 1989 report to the Congress. It clearly frames the Commission's responsibilities in the near future.

This chapter describes the legislation. Besides explaining the key provisions, it describes the tasks that lie ahead, many of which the Congress has asked the Commission to perform. The discussion constitutes the introduction to the rest of the report. The chapter concludes with a discussion of the impact of the legislation on physicians and beneficiaries and the implications of payment reform for the organization and delivery of medical care.

MEDICARE FEE SCHEDULE

A cornerstone of the payment reform legislation is the creation of the Medicare Fee Schedule. In January 1992 the Medicare program will begin to replace the current payment system that bases fees on what physicians charge with a fee schedule that reflects the resources used in providing services to patients. This policy is intended to realign payments that, under a charge-based system, have come to overvalue most surgical and technical procedures relative to visits and consultations. Over a five-year transition period, the fee schedule will play an increasing role in determining what physicians are paid.

Setting payment under the fee schedule begins with a relative value scale (RVS) that indicates the value of each service relative to other services. The RVS is translated into a schedule of fees when it is multiplied by a dollar conversion factor and a geographic adjustment factor that indicates how fees should vary from one locality to another. The fee schedule does not include specialty differentials. The Congress believes that there should be no difference in the fee paid to different specialists for providing the same service.

The sections below describe the provisions establishing the Medicare Fee Schedule and the additional work that remains on key aspects of the policy. The Congress may make further decisions on the design of the fee schedule before it is implemented in 1992. The fee schedule will also be shaped by additional work to be conducted by the Department of Health and Human Services (HHS) and the Commission. That work will focus on refinements in the fee schedule and implementation, issues many of which are described below.[1]

Relative Value Scale

The resource basis of the Medicare Fee Schedule is embodied in the relative value scale specified in the legislation. The RVS will have three cost components: a physician work component that reflects the time and intensity of the physician's effort in providing a service; a practice expense component that includes costs such as office rent, salaries, equipment, and supplies; and a separate malpractice component that reflects professional liability premium expenses. While the proportion of a relative value represented by each component varies by service, on average physician work accounts for slightly more than half the relative value.

---

[1] HHS presented its views on a number of implementation issues in its *Reports to Congress: Medicare Physician Payment*. The Commission commented on the HHS report and described its positions in the letter to HHS Secretary Sullivan contained in Appendix A. Commission and HCFA staff are continuing to discuss these and other issues of mutual interest.

Relative Physician Work Values

The legislation specifies that the physician work component is to reflect the time and intensity involved in providing a service. Although the legislation directs HHS to follow this principle, it stops short of dictating a method for computing values. It is assumed that they will be based on the results of the study of resource-based relative values conducted for the Health Care Financing Administration (HCFA) by William Hsiao and his colleagues at Harvard University, as modified by the Commission and HCFA.[2]

The relative work values that will be used when the fee schedule is implemented in 1992 are still under development. Based on the results of the first phase of the Hsiao study, estimates have been computed for more than 1,400 of the 7,000 physicians' services. Expanding the list of services must await completion of the second phase of the Hsiao study, which will produce estimates of physician work for 14 additional specialties, as well as correct some methodological problems from the study's first phase. By Fall 1990 the Commission will begin a process involving specialty societies, panels of physicians, the Hsiao team, the American Medical Association (AMA) and HCFA to refine the relative work values to be used in the Medicare Fee Schedule (Chapter 3).

Practice Expense

Practice expense constitutes almost half the resources that need to be allocated to different services in the RVS.[3] Much of practice expense consists of overhead, in that a given resource is used to produce all or most physician services. Office rent is an example. But some practice expense--X-ray equipment, for instance--supports only a limited range of services.

The legislation specifies a relatively crude method for allocating practice expense to individual services, but calls on the Commission to develop more sophisticated rules. The legislation's initial specification would set the practice expense component for a service equal to the product of its current allowed charge and the ratio of practice expense to revenue for the relevant specialty. The practice expense component for a general surgery procedure with an allowed charge of $1,000, for example, would be $400 if practice costs for the average general surgery practice equal 40 percent of revenues. When more than one specialty provides a service, a weighted average of specialty percentages would be applied.[4] This method differs substantially from the original formulation in the Hsiao study.[5]

---

[2] In the Consolidated Omnibus Budget Reconciliation Act of 1985 (P.L. 99-272), the Congress mandated that HCFA conduct a study to develop a resource-based relative value scale. That work has been carried out by William Hsiao and his colleagues at Harvard University. Based on surveys of physicians in different specialties, Hsiao developed estimates of relative work for a sample of procedures and extrapolated values for other services using Medicare physician charge data. The Commission evaluated the first phase of the study that included 18 specialties. It identified parts of the study that would have to be revised and expanded but concluded that the basic methodology of the study was sound. It has used the Hsiao estimates of relative physician work as the starting point for its development of a relative value scale for the Medicare Fee Schedule. The second phase of the Hsiao study, which includes surveys of 14 specialties and restudies of 8 specialties is expected to be completed in Fall 1990.

[3] The legislation excludes physician fringe benefits and malpractice premiums from practice expense. The former is included in the physician work component, and the latter is a separate component of the RVS.

The Commission is developing better rules for allocating practice expense that are consistent with its overall approach to payment reform (Chapter 4). It will assign practice expense to services according to two principles: the allocation should result in neutral incentives for physicians to provide one service rather than another,[6] and the method should fully compensate the average physician for the practice costs incurred.

Malpractice Expense

The legislation specifies a separate RVS component for the costs of malpractice coverage. The Commission suggested the distinction to highlight the magnitude of malpractice insurance costs and to permit a method of allocating these costs that differs from that for other practice costs. Malpractice premiums in an area are determined primarily on the basis of a physician's specialty. A separate component for malpractice permits calculating this expense according to a physician's specialty in a relative value scale that does not otherwise incorporate specialty differentials.

The mechanism for incorporating malpractice expense that was specified in the legislation will be refined. It may not be consistent with either of the principles underlying the allocation of practice expenses. The legislation is clear that refinement in the malpractice calculations is anticipated, however. Studies have been requested of both the General Accounting Office and the Commission on various options. Among these are assigning malpractice premium costs by the risk class of the physician or by type of service, reimbursing a portion of each physician's premium, and the federal government covering liability claims from Medicare patients.[7] These options are discussed in Chapter 5.

---

[4] Since ratios of practice expense to revenues of specialties with overlapping services do not differ greatly, this averaging will not affect relative values substantially under this method. Under the refined allocation rules that are contemplated, however, using this approach for different specialties could result in significant redistribution.

[5] See Chapter 5 of the Commission's 1989 report to Congress for a discussion of this point (PPRC, 1989).

[6] This approach differs from the public utility literature, which stresses differences in demand elasticities for different services. "Ramsey pricing" requires that overhead be loaded disproportionately on services with relatively inelastic demand. For physician services, however, there is little data on price elasticities by service, and insurance such as Medicare dilutes demand elasticities in any case. Thus, the Commission's approach emphasizes the supply side and an objective to remove artificial incentives that influence the way physicians choose to practice.

[7] Federal protection of physicians against claims by Medicare beneficiaries is advocated by some not as a way of economizing on premiums but as a vehicle to test various tort reforms.

Coding

When physicians submit claims for payment from the Medicare program, they use a system of codes to describe the services they have provided to Medicare patients.[8] The use of these codes by both the Medicare carriers who process the claims and physicians who file them has varied widely under the current payment system. Differences in the interpretation of codes theoretically can be accommodated under the current charge-based system since it is possible for fees to vary to reflect these differences. But a fee schedule places different requirements on the coding system.[9] With a single relative value assigned to each service nationally, coding definitions must be standardized and widely understood so that codes are applied uniformly by all who use them.

Two particularly problematic areas are standardizing coding policies for surgical procedures and clarifying the definitions of codes used for physician visits and consultations. The legislation recognizes the need for coding reform by calling for HHS to develop a uniform coding system. It specifies that payment for surgical procedures should reflect a global service definition that encompasses pre- and post-operative services. It also instructs HHS to establish a coding structure for visits and consultations that allows accurate assignment of relative values in the fee schedule. In doing so, the Department is to give specific consideration to incorporating time into the definitions of visit codes. Within this framework, the Congress has left the design of these coding policies to HHS, directing the Department to consult with the Commission as it carries out its work.

In addition to analyzing data from the Hsiao study and conducting its own survey of physicians, the Commission has relied heavily on consensus panels to develop recommendations for coding reform. Using a consensus panel of surgeons and medical directors of Medicare carriers, the Commission has developed a policy for standardizing the surgical global service.[10] Over the next year, it will continue its work to apply that definition to each surgical procedure and to assign relative work values that accurately reflect the policy (Chapter 3).

Recently, the Commission, in collaboration with the AMA, began a consensus process involving physicians, insurers, other health professionals, and consumers to take up the issues raised in the legislation about reforming the coding system for visits and consultations (Chapter 3). The results of that process will be provided to both the

---

[8] The HCFA Common Procedure Coding System (HCPCS) uses the American Medical Association's Common Procedural Terminology (CPT) to describe the services provided by physicians.

[9] In many instances today, specialties interpret a given code differently and specialty differentials may account for some of these differences. Coding reform will be an important accompaniment to a policy that eliminates specialty differentials.

[10] See Chapter 4 of the Commission's 1989 report to Congress (PPRC, 1989).

Commission and the AMA's CPT Editorial Panel. The Commission expects to draw on this work in consulting with HHS and in developing recommendations to the Congress.

Relative Values for Anesthesia, Radiology, and Pathology Services

The fee schedule will apply to all physicians' services, but the relative values for certain specialties may not derive from the Hsiao study. For anesthesia and radiology services, the legislation calls for relative values to be based on an anesthesia relative value guide and a radiology fee schedule that became the basis for Medicare payments in 1989 under legislation enacted in 1987. The provision directs HHS to make the necessary modifications to bring fees for these services in line with the rest of the Medicare Fee Schedule. As described in Chapter 8, the Commission's work on integrating anesthesia services into the Medicare Fee Schedule will be quite different than that for radiology, since it considers the current relative values for anesthesia to be a suitable basis for payment while those for radiology require revision.

OBRA89 also directs HHS to implement a fee schedule for pathology by January 1991, one year before implementation of the Medicare Fee Schedule. In Chapter 8, the Commission reviews the issues related to developing an RVS for pathology services prior to the completion of the Hsiao study and the Commission's work on practice expense.

Model Fee Schedule

The legislation calls for the Secretary of HHS to submit a model fee schedule to the Congress by September 1, 1990. Much of the information and analysis required to develop the relative values that will be used when the Medicare Fee Schedule is implemented in 1992 will not be available in time for use in the model fee schedule. As noted above, results from the second phase of the Hsiao study are not expected until Fall 1990. Refinement of relative physician work values cannot be completed without the Hsiao results. Refined practice cost estimates also will not be available in time to be incorporated into the model fee schedule. In response to mandates in OBRA89, the Commission will submit its analysis and recommendations on refining the methodology for assigning practice expense to physician services and on the method by which professional liability insurance costs should be paid under the fee schedule by July 1, 1991.

Given the absence of this information for assigning relative values to services in a model fee schedule later this year, it would seem most useful for HHS to focus its report to the Congress on the Department's decisions on key implementation issues and specific methods that will be used in assigning accurate relative values in the Medicare Fee Schedule.

Transition to the Medicare Fee Schedule

The legislation calls for a five-year transition from the current payment system to the Medicare Fee Schedule. The first step of that transition is particularly significant. Fees for services in a locality whose 1991 payments, as defined by the legislation, are within 15 percent of the fee schedule will shift to the fee schedule amounts in that first step in 1992.[11]

Two OBRA89 provisions to achieve budget savings in Medicare can be viewed as an earlier transition step toward the Medicare Fee Schedule: the provision allowing a full MEI update only for primary care services and the reduction in payments for 245 overvalued procedures beginning April 1, 1990. The latter provision applies to procedures whose national average prevailing charge is at least 10 percent above what the payment level would be under a resource-based RVS (Appendix B). The reduction in the prevailing charge for a service in a locality is equal to one-third of the amount by which it exceeds the geographically adjusted estimate of the fee schedule amount. Payment reductions are limited to a maximum of 15 percent.

It is estimated that services accounting for 32 percent of total Medicare expenditures will be paid at the full fee schedule amount in 1992. The combined effects of the OBRA89 1990 budget provisions and the fee schedule transition provisions for 1992 will result in 69 percent of the change in payment rates being accomplished by the first year of the transition.

For services for which payments do not move to the fee schedule in the first year of the transition, payments will be a blend of the payment amount from the previous year and the fee schedule amount.[12] In each of the next four years, the percentage of the Medicare payment attributable to the fee schedule amount will increase, beginning with 25 percent in 1993, 33 percent in 1994, and 50 percent in 1995. In 1996 all payments will be based on the fee schedule.

Conversion Factor

In the first year of the transition, the conversion factor is to be set so that estimated expenditures under the fee schedule for 1992 equal estimates of what expenditures would have been if the current payment system had continued. But two items threaten the execution of this concept of budget neutrality. First, the legislation is drafted so that the budget neutrality calculation is made for 1992 but is not repeated during subsequent years of the transition. But since the 1992 stage of the transition will not be symmetric (those services for which payments are increasing will have moved a larger portion of the distance to the final fee schedule), the fully implemented fee schedule will not be budget neutral. Simulations by the Commission suggest that after 1992 the conversion factor will be lower than one that would be budget neutral for the fully implemented fee schedule. This problem can be addressed by recalculating budget neutrality for each stage of the transition.

---

[11] The recognized payment amount is defined in the legislation as the weighted average prevailing charge for a service in 1991, without regard to specialty, adjusted to reflect payments for services with customary charges below the prevailing charge, other payment limitations, and the update for 1992 specified in OBRA89.

[12] Both the recognized payment amount and the fee schedule amount will be adjusted annually by the update factor specified for the fee schedule.

A second risk to budget neutrality concerns the assumptions about physician behavior to be used by the Health Care Financing Administration (HCFA) in calculating the conversion factor. The HHS report to Congress on physician payment reform suggested that HCFA would assume that induced changes in service volume will offset 50 percent of fee reductions but that fee increases will not induce a corresponding decrease in volume (DHHS, 1989). The research literature offers little guidance concerning how physicians will react to changes in relative values (Labelle et al., 1989). The Commission is concerned about the use of severe assumptions of any type to adjust the conversion factor in advance. Rather than assuming the worst, the Commission would favor HCFA taking an agnostic position towards behavioral impacts and adjusting the conversion factor once the net effect on volume is measured.[13]

Annual adjustments in the conversion factor will be based on the VPS policy. A later section of this chapter describes the policy and outlines the factors to be considered and the process for updating fees.

Geographic Adjustment Factor

Under the new payment system, fees will be adjusted to reflect geographic variation in costs of practice. The adjustment will reflect the full variation in an index of cost items such as office rent, salaries of nonphysician employees, and malpractice premiums and a partial adjustment for geographic differences in the cost of living.[14] Cost of living is represented by an index of earnings of professional workers other than physicians.

The Congress left the issue of boundaries for payment areas for the future.[15] The current boundaries have been set by each carrier and do not reflect a consistent philosophy. While some of the variation reflects differences in the nature of markets (states without large urban areas are more likely to have statewide localities), much of it is difficult to explain. In contrast to Medicare payment to hospitals, however, how the boundaries are drawn will have relatively small effects on payments in most localities (Chapter 6). The Commission also plans continued work on the issue of whether the geographic index to be used by Medicare accurately reflects the costs of practice physicians fare in remote rural areas (Chapter 7).

---

[13] The Volume Performance Standard mechanism (discussed below) could be used to make these adjustments.

[14] For a discussion of the development of this geographic practice cost index and estimates of its components, see Welch, W.P., S. Zuckerman, and G. Pope, *The Geographic Medicare Economic Index: Alternative Approaches*, Urban Institute Working Paper 3839-01-01, June 1989.

[15] The legislation calls for a study by the Commission before July 1991.

BENEFICIARY FINANCIAL PROTECTION

The Medicare program has always allowed physicians to charge patients more than the approved Medicare payment amount. This practice is often referred to as balance billing. The payment reform legislation continues that policy, while placing clearer and, in many cases, tighter limits on what physicians can charge. The policy standardizes the percentage by which charges can exceed the fee schedule amount, replacing a complicated system of physician-specific charge limits known as maximum allowable actual charges. In 1991 physicians will no longer be able to charge patients more than 125 percent of the Medicare fee. That percentage will decline to 120 percent in 1992 and to 115 percent in 1993 and thereafter.[16]

Because of the way the policy defines the payment amount to which the limit is applied, however, its impact will be even more than is apparent. The charge limits are based on Medicare payments to nonparticipating physicians (those who have not signed an agreement to accept what Medicare pays as payment in full on all claims), which are to be 95 percent of the fee schedule amounts. Because the 115 percent limit is applied to this lower fee, nonparticipating physicians can actually charge no more than 9.25 percent of the full fee schedule amount received by participating physicians.

The payment reform legislation also contains several provisions that are particularly important in assuring beneficiary financial protection and access to physicians' services. The Secretary of HHS must monitor charges by nonparticipating physicians and changes in the proportion of expenditures attributable to services provided by participating physicians or on an assigned basis. The Secretary must develop a plan to address any significant decreases in these assignment and participation trends.

The legislation also requires the Secretary to monitor changes in beneficiary utilization and access to services, possible sources of inappropriate utilization, and factors influencing these developments. Each year the Secretary must report the Department's findings to the Congress along with recommendations to address any problems identified through the monitoring process.

---

[16] In 1991 and 1992, the new charge limits will apply to physicians whose MAAC limits in the previous year exceeded 125 percent and 120 percent, respectively. Physicians whose MAAC limits had already been established at or below the new charge limits will continue to be constrained by those previous MAAC limits during these two years. Beginning in 1993, all physicians' charges will be limited to 115 percent of the Medicare payment amount.

Both monitoring reports are due to the Congress by April 15 each year.[17] The Commission is to review each report and submit its comments to the Congress.

MEDICARE VOLUME PERFORMANCE STANDARDS

The VPS policy is the major component of the payment reform to address the problem of increasing program costs. Under the policy, the fee schedule conversion factor will be updated on the basis of how expenditure increases compare to a previously determined goal. This policy draws heavily on the expenditure target (ET) proposal developed by the Commission and described in its 1988 and 1989 reports to the Congress.

Controlling Costs Through Appropriate Use of Services

The VPS policy expresses the Congress' determination to slow the growth of expenditures to an affordable rate. Its underlying concept is that by basing fee updates on how expenditure growth compares to a performance standard, the medical profession is given a collective incentive to foster approaches to cost containment. While these incentives are not intended to influence the decisions of individual practitioners directly, they do provide a reason for physicians to become more involved in efforts to contain medical costs. Approaches that medical organizations can pursue include developing and disseminating practice guidelines, expanding continuing education, and providing both technical and political support to carriers and Peer Review Organizations (PROs) in their utilization review activities.

If the VPS system is to achieve the Congress' goals for cost containment through increasing appropriateness of care rather than through smaller fee updates, the medical profession needs to take the leading role in changing the way that physicians and patients think about using medical resources. There must be a change in the expectation that physicians must provide and patients must receive every service that has some marginal value regardless of cost.

The federal government will support the efforts of the medical profession to increase appropriate use of medical resources in a number of ways. It will provide financial support for the profession's efforts to develop guidelines and review criteria. It will also generate information on utilization patterns to help focus these efforts and increase the effectiveness of peer review.

---

[17] The first report on beneficiary utilization and access is due April 15, 1991. The first report on issues related to assignment and participation is due April 15, 1992.

The VPS will be the federal government's main tool to control aggregate spending for physician services under Medicare. Once a specific standard for the rate of increase in expenditures is adopted, fee increases two years later will be adjusted up or down to guide expenditures toward this goal. The ability of Medicare to control costs in the long run through the VPS policy will depend both on whether the annual standards are met through slowed growth in service volume or through reduced fee updates and on how private insurers respond to disparities between Medicare and private payment levels. If private insurers maintain current payment levels and Medicare performance standards are met through reductions in fee updates, physicians may be less willing to see Medicare patients. This in turn could limit the federal government's ability to control growth in spending without compromising access to care. On the other hand, if private insurers adjust their fees in response to reductions in Medicare fee updates, potential access problems for Medicare patients would be diminished.

Setting the Performance Standard and Updating the Conversion Factor

The specifics of the VPS policy are complex because the Congress left little discretion in the implementation of the policy to HHS. The legislation calls for the Congress to make annual decisions on the performance standard (the target rate of increase in expenditures) and on the conversion factor update. But leaving these decisions to the Congress required provisions concerning what will happen if the Congress does not act. Thus, the legislation contains a series of formulas that HHS will use to determine the standard and the update if the Congress does not specify it each year.

While those who drafted the legislation envision the Congress acting each year, the default formulas are nevertheless very important. First, they signal the Congress' current thinking about the proper level of the performance standard and how the subsequent conversion factor update will depend on it. Second, the presence of a default option will inevitably influence deliberations, as various parties compare potential options with what the default formulas would yield.

To show how the VPS mechanism works, the following outlines how the expenditure change from 1990 to 1991 will influence the conversion factor update for 1993.[18] In April 1990, HHS will recommend a performance standard rate of increase for fiscal year 1991. One month later, the Commission will comment and make its recommendation to the Congress. Then the Congress will either set a performance standard or allow the default formula to go into effect. The 1991 default performance standard is the sum of (1) the

---

[18] The legislation specified how the Secretary of HHS would calculate the performance standard rate of increase for fiscal year 1990, the first year to which a performance standard will apply, resulting in a standard of 9.1 percent.

1990-1991 increase in Medicare fees,[19] (2) the average annual rate of growth in volume and intensity over the 1986-1990 period and (3) the effects of changes in law other than those affecting fees, less (4) a VPS factor of 1 percentage point. This VPS factor is 0.5 percentage points for 1990, 1 percentage point in 1991, 1.5 percentage points in 1992, and 2 percentage points for 1993 and later years. This suggests an intention to slow the expenditure growth rate gradually. To prepare for the Commission's recommendations to the Congress on May 15 of each year, Chapter 11 discusses the issues around choice of the annual performance standard.

In 1992, when the data for expenditures in fiscal year 1991 will be available, HHS will make a recommendation to the Congress on the fee update for calendar year 1993. The Commission will comment and make its recommendation to the Congress, which will enact legislation to set the update.

If the Congress does not act, the default formula will determine the update. The formula starts with the Medicare Economic Index (MEI), a measure of general inflation relevant to medical practices, and adjusts it by the difference between the performance standard and the actual change in expenditures. Thus, if the performance standard is 11 percent and expenditures increase by 12 percent, the update will be the MEI minus 1 percentage point. The default formula places a floor on how much less than the MEI the update can be. The limit is 2 percentage points for 1992 or 1993, 2.5 percentage points for 1994 or 1995, and 3 percentage points for 1996 and thereafter. There is no upper limit for the update. If the Congress makes the update decision, the limitation in the default formula does not apply.

Policy Decisions Left for the Future

A number of significant decisions concerning the VPS policy were left for the future. One concerns whether there should be subnational performance standards and updates. The legislation takes a step in this direction by calling for HHS to recommend a separate standard for surgery each year (and for 1992, a separate update), but the default formulas specify only national standards and updates.

A separate performance standard for surgery and perhaps other categories of services has a theoretical advantage of providing additional impetus to surgical specialty societies to work to contain costs. But it risks causing the relative values between surgery and other services to diverge from the resource basis of the fee schedule. In addition, an objective basis for setting differential performance standards is not yet available. While the legislation provides an avenue to move to subnational performance standards based on type of service, the key decisions will be made in 1990 or 1991 as Congress considers HHS and Commission recommendations for setting performance standards for the following years.

---

[19] The 1990-1991 increase in Medicare fees will reflect any decisions made by Congress that cause fee increases to differ from the Medicare Economic Index. In setting the performance standard for 1992 and later years, the increase in Medicare fees would reflect decisions on conversion factor updates resulting from the VPS process. Thus, if the update were 1 percentage point less than the MEI, this would be the approximate price increase factor to be included in the formula for the performance standard.

Performance standards could be set at the state level as well. State standards would emphasize the role of state-level organizations such as medical societies, state chapters of the larger specialty societies, carriers, and Peer Review Organizations. Chapter 12 discusses the various issues related to subnational (by type of service, specialty, and state) performance standards. Chapter 14 discusses the federal role in assisting physician efforts to respond constructively to the VPS policy through analyzing utilization trends, providing information on possible utilization problems to physicians, and developing the knowledge base required to support a VPS system.

The Administration has advocated separate performance standards and updates for voluntarily formed groups of physicians. The rationale is that such entities could respond better to the incentives of the VPS policy. The legislation provides for development of the concept by HHS, but requires an affirmative decision by the Congress before such a policy can be implemented. No one has yet demonstrated that an administrable policy can be developed, particularly a methodology for assessing the performance of such groups of physicians. Chapter 13 examines the issues related to this policy option and reviews approaches to improving the Medicare risk-contracting program with health maintenance organizations (HMOs) as an alternative.

A PROGRAM OF RESEARCH AND DISSEMINATION TO IMPROVE CLINICAL PRACTICE

The fourth component of the payment reform legislation expands federal support of health care research and dissemination of what is learned. It establishes the Agency for Health Care Policy and Research. The new agency has been given a broad charge to conduct and support research on the quality, appropriateness, effectiveness, and cost of health care services and to use the results of this research to promote improvements in clinical practice and in the organization, financing, and delivery of health care services.

The new agency, a component of the U.S. Public Health Service that reports directly to the Secretary of HHS, assumes the responsibilities of the National Center for Health Services Research and Health Care Technology Assessment (NCHSR), which was abolished. While many of the programs in the agency are similar to those carried out by NCHSR, the scope is greater, the funding higher, and the emphasis different. Effectiveness and outcomes research are more prominent in the charge to the agency, and there is a specific program to develop and analyze large clinical databases like those generated through Medicare claims. There is much greater emphasis on disseminating information based on clinical research practice, most apparent in the charge to mount a program to develop and disseminate practice guidelines, clinical standards, review criteria, and performance measures.

These activities were advocated by the Commission and by many others as critical to the success of payment reform. The generation of new information--and better ways to apply it in health care--will provide the means for physicians, health care administrators, reviewers, and others to improve the quality of care and to provide it more efficiently. It will give physicians the means to respond to the challenge posed by Volume Performance Standards to slow expenditure growth by reducing services of little or no benefit to Medicare beneficiaries.

Research on Effectiveness and Outcomes of Care

The new agency's programs will increase substantially the federal government's support for research to understand what is effective in medical care and what determines patient outcomes. Effectiveness and outcomes research ranges from the investigation of interventions like screening and prevention to focused studies of individual clinical procedures and practices. Continuing a trend evident in the past decade, the legislation emphasizes the importance of research that will produce information that can be readily applied in clinical practice, such as determining appropriate care for patients with particular conditions and appropriate use of particular medical practices and procedures. There is also an explicit emphasis on incorporating measures of the outcomes of care in this research, including patient-based measures like those of function and satisfaction.

The Patient Outcome Assessment Research Program (POARP) provides a good example of this kind of research.[20] Each POARP project focuses on a specific disease or condition such as benign prostatic disease or lower back pain. The project combines several elements designed to describe current practice for the disease or condition, elucidate the factors that determine patient outcomes, and disseminate the findings. Physicians are given information about the effectiveness of the procedures studied in order to stimulate changes in medical practice. New information about outcomes is provided to patients in an understandable form to help them make more informed decisions about alternative treatment options.

Dissemination of Information and Practice Guidelines

AHCPR will support efforts to disseminate and use the knowledge gained by research through a Forum for Quality and Effectiveness in Health Care. The Forum will sponsor the development of practice guidelines, clinical standards, and review criteria that will summarize much that is learned about effective and appropriate practice. Guidelines and clinical standards will help physicians and patients decide what care each patient should receive.

---

[20] An excellent example of a POARP project is that led by John Wennberg, a pioneer in outcomes research, as part of the Maine Medical Assessment Program (Wennberg et al., 1988; American Medical Association, 1986).

Successful development of practice guidelines and their integration into physicians' practices will require the commitment and active participation of the medical profession. It is encouraging that many medical specialty societies and other physician organizations have announced plans or have begun such projects to do this.[21] The academic research community is expected to develop and refine methods to construct and evaluate guidelines, standards, and criteria, as well as to perform most of the research on effectiveness and outcomes.

One possible impediment to the development and use of practice guidelines is the concern of physicians and their professional organizations that their exposure to medical malpractice suits may be increased by practice guidelines and that professional organizations that develop guidelines may face antitrust suits. The Commission examines both questions in Chapter 15.

The Congress has indicated its eagerness to see results from the programs it has put in place. It has set out an ambitious schedule for AHCPR to develop practice guidelines for three high-cost Medicare procedures by January 1991 and to report on their impact on cost and quality of care by January 1993.

Monitoring Clinical Practice and Analyzing Clinical Databases

Complementary to these new AHCPR programs are several requirements for HHS to monitor utilization, access, and appropriateness of care for Medicare beneficiaries. The Secretary must report to Congress each year on these issues. This information will enable the AHCPR to focus on areas of greatest impact and assist the medical community in focusing its efforts to apply practice guidelines and more generally to influence clinical practice. Medicare carriers are required to provide comparative utilization data to individual physicians whose utilization patterns vary significantly from their peers (Chapter 14).[22]

---

[21] The American College of Physicians has developed guidelines for a number of years (White and Ball, 1985). The American College of Cardiology in association with the American Heart Association has issued excellent guidelines for the use of several cardiology procedures (for example, American College of Cardiology/American Heart Association Task Force on Assessment of Cardiovascular Procedures, 1987). The American Medical Association and a group of specialty societies have recently embarked on a joint project to develop guidelines or practice parameters (James Todd, M.D., in testimony to the Physician Payment Review Commission, January 18, 1990).

[22] Profiling of this kind has sometimes led physicians to change their practice patterns, although such information has not always been effective. The availability of practice guidelines summarizing what is effective and appropriate practice, reinforced by the incentives of VPS, may make physicians more able and willing to change their practices in response to such data. For summaries of the evidence on changing physicians' practices, see Eisenberg (1986) and Schroeder (1987). For examples of successfully influencing physicians' practices, see American Medical Association (1986), Wennberg et al. (1977), and the recent work by Wennberg and his colleagues reported in Wennberg et al. (1988).

The legislation provides support and direction to build and analyze large clinical databases like those generated by Medicare claims. The responsibility for this work will be shared by the agency and HCFA, where much of the initial work in this area within HHS began (Roper et al., 1988). These analyses will supplement information from controlled clinical studies and can provide a wealth of information about current practices and patient outcomes.

Improving Medical Review

Better review criteria and methods must be integrated into Medicare's review program (Chapter 14). Medicare and other third party payers now review many individual decisions to admit a patient to the hospital or to provide particular services. Physicians complain that this case-by-case review not only intrudes unnecessarily into medical practice but is costly to them and to the Medicare program and is often inconsistent or incorrect. Better review criteria consistent with new practice guidelines can increase the accuracy of utilization and quality review by PROs, carriers, and fiscal intermediaries. For example, clear, specific information about the medical conditions for which a surgical procedure is indicated could not only help physicians make clinical decisions but also improve review by nurses and physicians who must give prior approval for these procedures. Improvements in review criteria and increased emphasis on physician practice profiling also have the potential to make review less intrusive and less expensive.

IMPLICATIONS OF THE REFORM

If the payment reform were to be described in one phrase, it might be rationalization of fee-for-service practice. The changes encompassed in the reform have implications specifically for physicians and beneficiaries and more broadly for the organization and delivery of medical services.

Impact on Physicians and Beneficiaries

When payment is based on estimates of the time and intensity of physician work, fees for most primary care services will increase, while fees for most surgical and technical procedures will decrease (Table 2-1).[23] Changes in relative values will result in redistribution of payments across specialties (Table 2-2). Specialties whose practices are oriented toward evaluation and management services, such as family practice and internal medicine, will experience increases in Medicare revenues; those more oriented toward procedures will experience declines in Medicare revenues.

The substantial variation in the magnitude of the change for different surgical specialties partly reflects differences in the mix of services each specialty provides.[24] Similarly, physicians in the same specialty will experience different effects depending on the mix of services they provide.

The geographic adjustments made to Medicare fees will lead to less geographic variation in payment rates than is the case today. The differences between urban and rural areas will narrow, but, in general, payment rates in rural areas will continue to be lower than those in urban areas (Table 2-3).[25] Effects on particular geographic areas will be larger in cases where historical charge levels have been unusually high or low.

Limits on balance billing are expected to reduce the number and size of balance bills substantially. Commission simulations show that with a 115 percent limit, total balance billing expenses for beneficiaries will decrease by 75 percent (Table 2-4). Sixty-eight percent of beneficiaries will experience a reduction in the amount they spend for coinsurance and balance bills (Table 2-5). Another 21 percent of beneficiaries will have increases in these expenses of no more than $10 per year.

Rationalizing Payment and the Practice of Medical Care

The fee schedule seeks to rationalize the pattern of payment and make financial incentives to physicians more nearly neutral. For example, physicians now have financial incentives to perform procedures rather than to provide evaluation and management services and to specialize in the more procedurally oriented areas of medicine. While any fee-for-service system encourages the provision of all types of services, with payment based on relative resource costs, the physician has no economic incentive to favor one service over another.

---

[23] For information about the methods used in Commission simulations, see Appendix G of the Commission's 1989 report to Congress (PPRC 1989). Tables 2-1 and 2-2 are based on the 1987 BMAD I file aged to 1989. The BMAD I simulations include all specialties and procedures. Changes to the fee schedule in these simulations include the OBRA89 budget provisions. Tables 2-3 and 2-4 are based on the 1986 BMAD III and IV files aged to 1988. These simulations include the top 25 specialties in terms allowed charges received and services accounting for at least 80 percent of the allowed payments for each specialty. All Commission simulations of the Medicare Fee Schedule assume no change in physician behavior. While it is reasonable to assume that physicians would respond to the changed incentives created by the fee schedule, the assumption of static behavior was made because there is no precedent on which to base a quantitative estimate of behavioral responses. Therefore, the results of the simulations should be considered as indicators of the direction and magnitude of changes, not as precise estimates.

[24] The subspecialties of internal medicine that are most procedurally oriented--cardiology and gastroenterology--do not appear in Table 2-2 because they were not included in the first phase of the Hsiao study.

[25] A portion of the gain projected for rural physicians will come from evaluation and management services that comprise a higher than average proportion of their practices.

Effectiveness and outcomes research generates information to rationalize care. As knowledge of what is effective and appropriate practice increases, the information can be translated into practice guidelines and disseminated to and by the medical profession. This information can also be provided to beneficiaries to help them take a more active role in decisions about their care.

Table 2-1. Change in Medicare Payments for Selected Procedures

CPT Code	Service	Percent Change
(Primary Care)	**Primary Care**	30
27130	Total hip replacement	-23
27244	Repair femur fracture	-5
33207	Insertion of heart pacemaker	-41
33512	Coronary artery bypass	-34
35301	Rechannel artery of neck	-31
44140	Partial removal of colon	-18
45385	Colonoscopy to remove lesion	-34
49505	Repair inguinal hernia	-33
52601	Prostatectomy (transurethral)	-19
66984	Remove cataract, insert lens	-23
93000	Electrocardiogram, complete	-33
93015	Cardiovascular Stress Test	-39

Source: PPRC simulations, 1987 BMADI aged to 1989.

Notes:

a) Change from average 1989 charge under reasonable charge payment to a fee schedule based on resource costs.

b) The change to the fee schedule includes the 1990 exemption of primary care from the MEI reduction and reductions in overvalued procedures and radiology.

c) Required changes in the coding for visit services preclude estimates of changes in payment for particular Current Procedure Terminology (CPT) codes.

Table 2-2. Change in Medicare Payments by Specialty

Specialty	Percent Change
Medical	20
Internal Medicine	14
Family Practice	37
Surgical	-11
Ophthalmology	-18
General Surgery	-9
Orthopedic Surgery	-9
Urology	-5
Thoracic Surgery	-25
Otolaryngology	6
Obstetrics/Gynecology	-4
Other Physicians	8

Source: PPRC simulations, 1987 BMADI aged to 1989.

Notes:

a) Change from average 1989 charges under reasonable charge payment to a fee schedule based on resource costs.

b) The change to the fee schedule includes the 1990 exemption of primary care from the MEI reduction and reductions in overvalued procedures and radiology.

c) Does not include balance bills.

d) "Other physicians" includes physician specialties with data problems and that were not evaluated in the Hsiao study.

Table 2-3. Change in Medicare Payments by Geographic Area

Area	Specialty Group	Percent
Metropolitan > 3 million	Medical	10
	Surgical	-15
	All physicians	-4
Metropolitan between 1 and 3 million	Medical	14
	Surgical	-14
	All physicians	-5
Metropolitan < 1 million	Medical	2
	Surgical	-9
	All physicians	1
Rural county > 25,000	Medical	28
	Surgical	-5
	All physicians	12
Rural county < 25,000	Medical	34
	Surgical	-8
	All physicians	13

Source: PPRC simulations, 1986 BMADIII aged to 1988.

Note: Change from average 1988 charges under reasonable charge payment to a fee schedule based on resource costs.

Table 2-4. Beneficiaries' Liabilities for Coinsurance Plus Balance Bills Under the Medicare Fee Schedule

	Percent Change from CPR Per Beneficiary		
	Total	Balance Bill	Coinsurance
All	-30	-75	0
< 65 yrs	-26	-77	0
65 - 74	-32	-75	-2
75 - 84	-29	-74	0
85 + yrs	-24	-74	4
Males	-31	-75	-2
white	-31	-75	-2
non-white	-21	-77	1
Females	-29	-75	1
white	-29	-75	1
non-white	-19	-77	4
Income (% poverty level)			
below	-25	-73	-1
100 - 149%	-28	-73	0
150 - 199%	-29	-71	0
200 - 299%	-29	-75	0
300% and over	-33	-76	-1
Hospitalized			
yes	-25	-75	-2
no	-25	-75	1

Source: PPRC simulations, 1986 BMADIV aged to 1988.

Note: a) Change from average 1988 charges under reasonable charge payment to a fee schedule based on resource costs.

b) Excludes enrollees who did not have claims and Medicaid beneficiaries.

Table 2-5. Distribution of Beneficiaries by Changes in Coinsurance Plus Balance Bills

	Percent of Beneficiaries	
Change from CPR	With Decreases	With Increases
$1 - 10	20	21
11 - 25	11	6
26 - 50	10	3
51 - 100	10	1
101 - 251	10	1
251 - 1000	6	0
> 1000	1	0
Total	68	32

Source: PPRC simulations, 1986 BMADIV aged to 1988.

Note: a) Change from 1988 charge under reasonable charge payment to a fee schedule based on resource costs.

b) Excludes enrollees who did not have claims and Medicaid beneficiaries.

While most physicians will respond to opportunities to improve their practices, education will be reinforced by utilization and quality review using improved criteria consistent with guidelines. Utilization review will also provide a specific financial incentive to eliminate medically unnecessary or inappropriate services. Volume Performance Standards provide the government some measure of control over outlays and give the medical profession a collective incentive to take steps to increase the appropriateness of medical practice.

The reform attempts to enable fee-for-service medicine to continue by countering its tendency to increase costs to unaffordable levels. Rather than engineer a 180-degree change in incentives to physicians, as capitation for all Medicare beneficiaries would, the reform seeks to counter financial incentives to provide more services by stimulating increased professional activity to define efficient medical practice and encouraging physicians to practice that way. Administrative activities, such as utilization review, are used as reinforcement and a backup.

While the orientation of the reform is toward improving fee-for-service care, it does not discourage alternative delivery systems, such as HMOs. HMOs will continue to compete with fee-for-service practices. Since HMOs have a managerial structure through which to influence the physicians who provide care to enrollees, they may gain particular benefit from the effectiveness research and practice guidelines. The competition between fee-for-service and HMO practices will continue, based on factors such as which sector can do a better job of controlling costs in a manner that leaves patients and physicians satisfied.

While some have labeled the reform provisions as revolutionary, many aspects of the policy are logical extensions of policy changes enacted over the past five years. For example, departures from charge-based relative values began in 1986 with reductions in payment for cataract surgery. Restrictions on physician charges began in 1984 when charges were frozen along with Medicare payments. Fee updates have been influenced by judgments about affordable rates of increase in expenditures since soon after the Medicare program began and particularly since 1984. A number of specialty societies have developed and disseminated practice guidelines, and NCHSR began supporting outcomes research several years ago. The payment reform policy builds on these relatively fragmented policy efforts by combining them and pursuing them with greater determination and purpose.

Implementation of these policies over the next few years calls for the efforts of many and will require further policy decisions. While the major policy decisions concerning the shape of the fee schedule have been made, the discussion earlier in this chapter highlights some of the analysis that must be conducted and the more detailed policy decisions that remain. The VPS policy will call for additional attention from the Congress. The Congress will not only have to take up such issues as subnational targets but is likely to be confronted with very different views from private payers on how the VPS is affecting them and whether the fee schedule and VPS should apply to their payment policies as well.

Although the commitment to provide physicians more information on appropriateness and effectiveness is clear, researchers and clinicians have much work to do to change clinical practice. Support by the medical profession will be critical to success. Funding decisions for fiscal year 1990 went well, but hard work remains to increase these levels for the future.

By rationalizing payment and supporting positive change in medical practice through increased research and information, the legislation has the potential to slow the growth of Medicare expenditures while maintaining or improving the quality of care. But passing the legislation is only the first step. The degree of success will depend in large part on the quality of the follow-through by the government and the response of physicians and beneficiaries.

REFERENCES

American College of Cardiology/American Heart Association Task Force on Assessment of Cardiovascular Procedures, "Guidelines for Coronary Angiography," *Journal of the American College of Cardiology* 10(4):935-940, 1987.

American Medical Association, *Confronting Regional Variations: The Maine Approach,* Chicago: American Medical Association, 1986.

Eisenberg, J.M., *Doctors' Decisions and the Cost of Medical Care*, Ann Arbor: Health Administration Press, 1986.

Labelle, R., J. Hurley, and T. Rice, *Financial Incentives and Medical Practice: Evidence from Ontario on the Effect of Changes in Physician Fees on Medical Care Utilization*, Washington, D.C.: Physician Payment Review Commission, 1989.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989.

Roper, W.L., W. Winkenwerder, G.M. Hackbarth, et al., "Effectiveness in Health Care: An Initiative to Evaluate and Improve Health Care," *New England Journal of Medicine* 319(18):1197-2002, 1988.

Schroeder, S.A., "Strategies for Reducing Medical Costs by Changing Physicians' Behavior: Efficacy and Impact on Quality of Care," *International Journal of Technology Assessment in Health Care* 3:39-50, 1987.

U.S. Department of Health and Human Services (HHS), *Reports to Congress: Medicare Physician Payment*, Washington, D.C.: U.S. Department of Health and Human Services, 1989.

Wennberg, J.E., L. Blowers, R. Parker, et al., "Changes in Tonsillectomy Rates Associated with Feedback and Review," *Pediatrics* 59:821-826, 1977.

Wennberg, J.E., A.G. Mulley, K. Hanley, et al., "An Assessment of Prostatectomy for Benign Urinary Tract Obstruction: Geographic Variations and the Evaluation of Medical Care Outcomes," *Journal of the American Medical Association* 259(20):3027-3030, 1988.

White, L.J. and J.R. Ball, "The Clinical Efficacy Assessment Project of the American College of Physicians," *International Journal of Technology Assessment in Health Care* 1:169-174, 1985.

CHAPTER 3

REFINING THE SCALE OF RELATIVE WORK FOR THE MEDICARE FEE SCHEDULE

The work components for all physician services in the Medicare Fee Schedule will be set through a scale of relative work. This scale will be based on estimates of physician work from the study of resource-based relative values by William Hsiao and his colleagues at Harvard University. When the study is completed in the fall of 1990, physicians in 32 specialties will have been surveyed, and relative work values (RWVs) will have been assigned to most of the 7,000 physician services in the American Medical Association's *Current Procedural Terminology* (CPT).

In 1989 the Commission carefully evaluated the results of Phase I of the Hsiao study and concluded that the basic methodology was sound (PPRC, 1989a). Parts of the study need to be revised and expanded, however, before the final scale of relative work is constructed. Hsiao and his colleagues are correcting certain methodologic problems that were identified in the first phase of the study. The Commission is continuing to focus on coding problems that need to be corrected before accurate RWVs can be assigned to evaluation and management (EM) services and surgical global services.

These efforts will improve the overall scale of relative work, but they alone cannot ensure the accuracy and reasonableness of each RWV. For example, some RWVs for services surveyed directly in the Hsiao study may be inaccurate because of problems assigning codes to vignettes. Some RWVs developed through extrapolation may not be reasonable because of poor correlations between relative charges and relative work. To address these problems, the Commission has designed a process that will give physicians in each specialty an opportunity to review the RWVs assigned to their services and to participate actively in their refinement.

This chapter presents an overview of the Commission's work plan to develop the scale of relative work for the Medicare Fee Schedule. It begins by reviewing the Commission's activities related to EM and surgical global services. It continues with a description of the process the Commission is planning to use to review and refine the scale of relative work when the Hsiao study is completed. It concludes by discussing the applicability of the refined scale of relative work to the care of Medicare patients.

EVALUATION AND MANAGEMENT SERVICES

A national fee schedule requires that codes for physician services be interpreted uniformly by all physicians and carriers. Only then can services be assigned relative values that accurately reflect the resource costs involved. In its 1989 report to Congress, the Commission demonstrated that the CPT coding system for EM services (visits and consultations) does not currently meet this requirement. Analyses by the Commission and by Hsiao and his colleagues suggest that it could be met, however, if time were incorporated in the definitions of EM codes.

This section briefly reviews the problems with the current CPT coding system and the rationale for incorporating time in EM codes. It then describes the consensus process that the Commission and the American Medical Association (AMA) are jointly sponsoring to help them institute this reform and the method the Commission is planning to use to assign relative work values to the new EM codes.

Problems with the Current EM Coding System

Currently, physicians in different parts of the country and different specialties use the same CPT visit or consultation code to bill for EM services that vary substantially in terms of work (PPRC, 1989a). This variation can be accommodated under the customary, prevailing, and reasonable (CPR) method for determining physician payment, since payment is based on charge screens that vary by locality and specialty. But under the Medicare Fee Schedule, a single relative value will be assigned to each code nationally, and this value will apply to physicians in all specialties. Thus, it will be difficult to assign accurate relative values to EM services and to ensure equitable payment unless visit codes are redefined so that they represent similar resource costs to all who use them.

Incorporating Time in the EM Coding System

Analysis of data from the Hsiao study suggests that incorporating time in the definitions of visit codes would lead to greater uniformity in the use of these codes and would facilitate the assignment of accurate and equitable values to EM services (PPRC, 1989a). This is because physicians in different regions of the country, in different specialties, and within each specialty estimate work similarly for a given type of visit that lasts the same amount of time.

Time would not be the sole descriptor in a time-incorporating EM coding system, however. Classification descriptors such as new/established patient, site of service, and referral status[1] would be used to distinguish visits that involve more effort (work per unit time) than others. Fees would be based on the class of visit as well as its duration. For example, payment would be higher for an initial consultation that typically lasts 30 minutes than for an office visit with an established patient that typically lasts the same amount of time. And payment would be higher for a hospital visit that typically lasts 60 minutes than for one that typically lasts 30 minutes. Thus, with this type of coding system, fees could be assigned that accurately reflect differences in work.

Content descriptors would continue to play an important role in the EM coding system. Currently, CPT differentiates visits within each class using levels of service defined solely in terms of content.[2] In a time-incorporating coding system, levels of service would still be used. But they would be defined on the basis of both time and content, reflecting the EM services associated with visits that typically last certain amounts of time.[3] The integration of time and content in the definitions would facilitate the assignment of accurate relative values to visits, document the EM services provided during visits, and ensure equitable payment for physicians who provide EM services more efficiently than others.

The coding system described above would recognize differences in the EM services provided by different specialists without relying on specialty differentials. Physicians in different specialties do not provide the same mix of EM services. Some specialists provide primarily short established patient office visits. Others provide longer visits or a greater proportion of consultations or hospital visits. With the refined coding system, each specialist's total EM payment would be different, reflecting differences in the time and effort involved.

Issues. The incorporation of time (as well as other relevant descriptors) in EM codes has the support of the Commission, the AMA Ad Hoc Committee on Visits and Levels of Service, Hsiao and his colleagues, and many specialty societies. However, a number of issues need to be resolved before this reform can be instituted. For example:

- o What measure(s) of time (for example, face-to-face encounter time, scheduled time, total time) should be used in the definitions of EM codes?
- o Should the measure of time apply only to the physician's input, or should it also apply to the EM services provided by the physician's employees?

---

[1] Referral status applies to whether the patient is being seen at the request of another health care provider. For example, a consultation is a referred visit.

[2] CPT currently uses six levels of service: minimal, brief, limited, intermediate, extended, and comprehensive.

[3] Physicians would not bill or be paid by the minute with a time-incorporating coding system.

- How should time and a description of services be integrated in the definitions for levels of service?
- What classes of visits should be recognized in the EM coding system?
- How many levels of service should be used to describe each class of visit and consultation code?

Consensus Process. In January 1990 the Commission and the American Medical Association jointly convened a consensus panel to answer these questions. The panel is made up of 29 physicians representing the specialties that provide EM services, five representatives of the CPT Editorial Panel, eight representatives of Medicare carriers and private insurers, two consumer representatives, and one representative each of nurses and physician assistants. In a structured process, the panel is examining options for resolving each of these issues and working to find solutions that best meet the needs of all parties who use EM codes.

In the course of its deliberations, the panel is reviewing information from a variety of sources. Data from the Commission's Survey of Visits and Consultations (described in more detail below), the Hsiao study, the National Ambulatory Medical Care Survey, and the University of Southern California National Study of Medical and Surgical Specialties bear on each of the issues the panel is addressing. Specifically, analyses of these data are providing the panel with information about: (1) the relationship between different measures of time and the total work involved in visits; (2) the extent to which physicians differ in terms of practice style and their use of nonphysician providers; (3) the specific EM services associated with visits that last a particular length of time; (4) the influence of a number of variables (such as new/established patient, site of service, referral status, new/old problem, patient age, and cognitive/physical impairment) on the relationship between work and time in visits; and (5) the most common encounter times for different classes of visits. The panel is also being provided with analyses of their own responses to telephone interviews and questionnaires and relevant findings of the AMA Ad Hoc Committee on Visits and Levels of Service.

The work of the consensus panel should be completed in June 1990. Shortly thereafter, the panel's final recommendations for incorporating time in the EM coding system will be presented to the Commission and the CPT Editorial Panel for their review and approval.[4]

The consensus process described above is limited to generic EM codes that are used by physicians in all specialties. After these codes are revised, additional panels will be convened to revise codes for specialized EM services (such as psychiatric, ophthalmologic, emergency department, and preventive services) and to address codes for global EM services (such as monthly dialysis visits).

---

[4] The CPT Editorial Panel will consider the panel's recommendations for incorporation in the 1992 edition of CPT.

Assigning Relative Work Values to EM Services

The Commission is planning to assign RWVs to EM services using the coding definitions developed by these panels (after they have been reviewed by the Commission and the CPT Editorial Panel). This work will draw on the results of a refined analysis of the relationship between work and time based on data from Phases I and II of the Hsiao study and from the Commission's Survey of Visits and Consultations. RWVs for EM services will not rely on extrapolations from existing charge data.

Hsiao Study. In 1989 the Commission used the results of Phase I of the Hsiao study to perform a preliminary analysis of the relationship between work and time for EM services (PPRC, 1989a). This analysis was limited in several respects. Only 16 specialties that provide EM services were included in the initial phase of the Hsiao study, and not all of them were surveyed about the full range of EM services they provide. Moreover, physicians in Phase I did not give direct estimates of total work for EM vignettes. Instead total work values were imputed, using limited data about pre- and postservice time and relying on one or more unsubstantiated assumptions.[5]

When the Hsiao study is completed, a more representative, comprehensive, and reliable database will be available for analysis. Twenty-eight specialties will have been surveyed about EM services, and eight of these will have been surveyed twice. Physicians in Phase II are estimating total work directly for EM vignettes, and the vignettes in Phase II encompass a broader range of EM services.

Commission Survey of Visits and Consultations. The Commission recently completed field work for a survey that will provide data to validate and refine the estimates of time and work for EM services in the Hsiao study. In the Commission's study, 339 physicians in three specialties (internal medicine, rheumatology, and urology) were surveyed about 18,000 visits and consultations they provided in the office and hospital. Using clipboards with attached digital watches, the physicians and their staffs separately recorded start and stop times for seven categories of EM services provided on the day of the visit.[6] They also estimated the time involved in providing five categories of EM services related to the visit but performed before or after the day of the visit.[7] In addition, the physicians estimated total physician work for each visit (by comparing it to the work of a standard vignette) and the proportion of total physician work performed on the day of the visit.

---

[5] The Commission's analysis of the relationship between work and time for EM services based on results from Phase I of the Hsiao study is described in detail in Chapter 3 and Appendix B of the Commission's 1989 Report to Congress.

[6] Start and stop times were obtained for the following categories of EM services performed on the day of the visit: (1) review of records; (2) history and physical examination; (3) patient and/or family counseling; (4) charting and dictation; (5) contact with other health care providers; (6) patient-specific contact with housestaff; (7) scheduling procedures and hospital admissions and obtaining laboratory and X-ray results.

The Commission will compare the time and work involved in these actual visits and consultations to estimates of time and work for EM vignettes in the Hsiao study. The start and stop times for EM services performed before, during, and after the patient encounter in the Commission's survey will be compared to estimates of pre-, intra- and postservice time in Phase I of the Hsiao study and to estimates of intraservice and total time in Phase II. Direct estimates of total physician work for actual visits and consultations will be compared to imputed values of total work from Phase I and direct estimates from Phase II. Analysis based on both sources of data should improve the Commission's confidence in the relationship between work and time for different classes of visits.

SURGICAL GLOBAL SERVICES

The Medicare program does not have a uniform policy specifying which component services should be included in the global fee for surgery and which should be paid separately. As a result, and as the Commission documented in a recent survey, Medicare carrier policies vary widely. Each surgical code represents any one of 44 different combinations of component services, depending on the carrier area in which it is used (PPRC, 1989a; PPRC 1989b).

Although variable global service policies can be accommodated under the current CPR system for determining physician payment, the Medicare Fee Schedule requires that the surgical global service be defined uniformly. This section briefly reviews the Commission's standardized global service policy. It then describes the method the Commission is planning to use to assign relative work values to global services that accurately reflect the component services included in this policy.

---

[7] Estimates of time were obtained for the following categories of EM services related to the visit but performed before or after the day of the visit: (1) reviewing records; (2) telephone contact with patient or family; (3) charting and dictation; (4) contact with other providers; (5) scheduling and obtaining results.

The Standardized Surgical Global Service Policy

In 1988, the Commission developed a standardized surgical global service policy with the help of a panel of surgeons and Medicare carrier representatives.[8] This policy, which was approved unanimously by the panel and the Commission, was explicitly designed to reconcile the goals of all interested groups (surgeons, carriers, beneficiaries, government policy analysts, and researchers) (PPRC, 1989a). These goals required that the policy:

- be clear and clinically meaningful;
- be administratively simple and verifiable;
- reflect current dominant Medicare carrier practice;
- facilitate the assignment of accurate resource-based relative values to surgical services;
- protect access to care by beneficiaries;
- promote equity among physicians, especially for surgeons who care for patients with complex conditions;
- limit the potential for gaming; and
- provide accurate and consistent claims data that can be used for monitoring, planning, and research.

In examining the options for surgical global payment, both the panel and Commission concluded that these goals could best be met by a policy that includes all preoperative hospital visits provided by the principal surgeon on the day before and day of surgery (with the exception of the consultation), all intraoperative services performed by the principal surgeon that are a usual and necessary part of the operation, certain minor perioperative procedures, and all related institutional and outpatient visits provided by the principal surgeon in the 90 days following surgery.

---

[8] The global policy does not apply to nonincisional procedures (for example, cystourethroscopy and gastrointestinal endoscopy) or to invasive procedures that are frequently performed by nonsurgeons (such as coronary angioplasty).

Assigning Relative Work Values to Surgical Global Services

The Commission's global service definition is broader than that used in the Hsiao study.[9] Therefore, the RWVs assigned to surgical services in the Hsiao study underestimate the total work involved in the Commission's global service. To assign RWVs that more accurately reflect the new policy, the Commission is identifying the specific components (the operation, preoperative visits, and postoperative visits) included in each surgical global service and is then planning to add the RWVs of these component parts. The RWV for the operative component will be the value of intraservice work and scrub work assigned to it in the Hsiao study.[10] The RWV for the EM component will be based on the number, site, and duration of pre- and postoperative hospital and office visits typically associated with each operation during the global service timeframe. Since the global service definition used in the Hsiao study does not include office visits, the amount of work for the EM component cannot be determined solely from data in the Hsiao study. Therefore, data from other sources will also be used in these calculations.

Surgical specialty societies have played an important role in this process by providing the Commission with detailed information about the visits associated with each of the operations in their fields. The societies used either a consensus process or a committee process to obtain this information. They have provided the Commission with detailed descriptions of the methods used as well as the names of the participating physicians.

The Commission is reviewing and validating the information submitted by each society. Information about hospital visits is being compared to hospital data on average length of stay and data from the Hsiao study and other physician surveys. Information about office visits is being compared to claims data from those Medicare carriers that do not include office visits in their global surgical fees, data from health maintenance organizations (HMOs) and multispecialty groups, and physician survey data. In addition, the Commission is planning to convene a panel of physicians not directly affected by payment reform to assess the face validity of data for which few objective sources are available for comparison. The validation study should be completed in the summer of 1990.[11] Data from surgical specialty societies will be used only if they are in agreement with the objective sources of data used in this study or if the specialty societies can demonstrate to the Commission that their estimates are more accurate.

---

[9] The global service in the Hsiao study is limited to services provided in the hospital.

[10] In the Hsiao study, intraservice work is defined as the work involved in performing the operation itself. Scrub work is defined as the work involved in dressing, scrubbing and waiting before the operation begins.

[11] The results of the validation study will be published as a Commission Background Paper.

RWVs will be assigned to all surgical global services when the validation study and Hsiao study are completed. RWVs for unsurveyed surgical global services will be based, in part, on extrapolations from existing charge data. But extrapolation will be used to determine only the intraservice work component of unsurveyed operations. It will not be used for the EM component since the Commission will be able to calculate these values directly for all surgical global service codes.

PROCESS TO REVIEW AND REFINE THE SCALE OF RELATIVE WORK

When the work of Hsiao and the Commission is completed in the fall of 1990, the Commission will begin a process to identify any remaining problems of accuracy or reasonableness in the scale of relative work and to make necessary refinements. This process is designed to:

- give physicians in each specialty an opportunity to review the accuracy and reasonableness of RWVs assigned to their services and to participate actively in their refinement;
- resolve problems in an orderly fashion, relying on data wherever possible and on expert judgment where data are inadequate or unavailable;
- preserve relationships in the scale of relative work developed by Hsiao and his colleagues about which the Commission has a high degree of confidence;
- minimize opportunities for gaming; and
- complete the refinement in a timeframe compatible with legislative provisions for implementing the Medicare Fee Schedule.

Specialty societies, panels of physicians, Hsiao and his colleagues, and analysts from the AMA and the Health Care Financing Administration (HCFA) will all play a role in this process. Specialty societies will identify problems related to RWVs for surveyed services, cross-specialty links, and the families of services and benchmark services used in the extrapolations. These problems will be corrected by the Commission, in consultation with representatives of the Harvard team, the AMA, HCFA, and an interspecialty panel of physicians. The Commission will also convene specialty-specific advisory panels of physicians to help it identify and refine RWVs developed through extrapolation that appear to be unreasonable because of poor correlations between relative charges and relative work.

The four-step process, which is described in detail below, applies primarily to non-EM services (surgery, nonoperative technical procedures, imaging, and laboratory services). EM vignettes will be considered as part of the refinement of cross-specialty links. But since EM codes will be revised in a separate consensus process and EM RVWs will not be assigned through extrapolation, it would be repetitious and unnecessary to include EM services in the other steps of this process.

Step 1: Refinement of RWVs for Surveyed Non-EM Services

The initial phase of the process is the refinement of RWVs for non-EM services that were surveyed directly in the Hsiao study. Surveyed services form the basis for linking and extrapolation. Correcting RWVs for these services first should minimize subsequent problems with the interspecialty scale of work and with RWVs for unsurveyed services.

After the Commission completes its analysis and evaluation of data from Phases I and II of the Hsiao study and assigns RWVs to surgical services using the standardized global service policy, specialty societies will be asked to review the RWVs for their surveyed non-EM services and to identify any they consider to be inaccurate. RWVs for surveyed services may be inaccurate for a number of reasons. For example, there may be problems with the qualifications of the respondents who rated the vignettes, the standard vignettes that were used to estimate work, the way total work was imputed, or the CPT codes that were assigned to the vignettes. The societies will be asked to identify the underlying problems and to provide data to support their arguments. Commission staff will review the RWVs in question, consulting with Hsiao and his colleagues and with analysts from the AMA and HCFA. If data are available that support a specialty society's position, the RWV will be corrected by the Commission.[12] If a society's position cannot be substantiated, the RWV will not be changed. But in some cases, available data may be inadequate to resolve the problem. These disputed RWVs will be referred to an interspecialty advisory panel.

An advisory panel made up of physicians representing all specialties included in the Hsiao study should be particularly well suited for making recommendations about disputed RWVs. Its members should be able to resolve problems on the basis of expert judgment when data are insufficient. And it should provide an appropriate forum for balancing the claims of different specialties. This is important because changes in any one specialty's RWVs will affect all specialties. Increasing RWVs for particular surveyed services will decrease fees for all other services. Changing RWVs for linking services may alter the relationship between intraspecialty scales of work.[13] Thus, recommendations that are advantageous to one specialty may be disadvantageous to others. To be sure the panel considers these interrelationships, the Commission will provide them with simulations of the impact of their recommendations. This should improve the quality of their deliberations and minimize any opportunity for gaming.

---

[12] For example, a specialty may claim that the RWV for one of its surveyed services is inaccurate because the vignette does not reflect the average work of its assigned CPT code. This would be the case if the CPT code encompasses heterogeneous services that vary substantially in terms of work, such as an initial coronary artery bypass graft (CABG) and a CABG reoperation, but the vignette only describes the service that entails less work (the initial CABG). The Commission could correct this RWV if the relative frequency of CABG reoperation is known and if the relative work of initial CABG and CABG reoperation are known or can be determined. Alternatively, the Commission could suggest to CPT or HCFA that separate codes with different RWVs be used to distinguish these services.

The panel will meet early in 1991 and should be able to complete its work in one or two meetings, depending on the number of RWVs in question. Its recommendations will be presented to the Commission for final action. If the panel reaches an impasse, the Commission will make decisions about the RWVs with the help of technical consultants.

Step 2: Refinement of Cross-Specialty Links and Extrapolation Benchmarks and Families

The refined RWVs for surveyed services will allow the Commission to make improvements (if any are necessary) in cross-specialty links and to develop more refined RWVs for unsurveyed services. The Commission will use Hsiao's methodology to accomplish these tasks. Hsiao and his colleagues, as well as analysts from the AMA and HCFA, will be asked to participate in the process as consultants. Specialty societies will also play a role by identifying any problems with the vignettes used as cross-specialty links and with the benchmark services and families of services used in the extrapolations.

Cross-Specialty Links. Specialty societies will be asked to review all of the vignettes (EM and non-EM)[14] for their linking services and to provide the Commission with written comments if they believe any of their links are invalid. Commission staff will review each of the links in question, consulting with researchers from the Hsiao study, analysts from the AMA and HCFA, and representatives of the involved and related specialties. Decisions will be made by the Commission, and replacement links may be sought for any judged invalid. The interspecialty scale of relative work will be constructed using Hsiao's least-squares method (Hsiao et al., 1988) and the links from this process.

It is important to point out that changes in RWVs for linking services in Step 1 of the process will not, in general, prevent those services from being used as links. If two specialties agree that a linking vignette is the same, they are likely to agree about any refinement in its RWV. Similarly, if two specialties agree that a pair of linking vignettes are equivalent, they are likely to recommend parallel refinements in RWVs. Even if specialties do not agree about changes in RWVs for linking services, it still may be possible to use them as links. This is because the linking step is based on intraservice work rather than total work, and the specialties may not disagree about the intraservice component. Problems will arise only if the specialties do not believe that linking vignettes are the same or equivalent.

---

[13] The cross-specialty linkage is discussed further in Step 2.

[14] EM vignettes can still be used as links even though codes and RWVs for these services will be changed. The only requirement is that the specialties agree that their linked EM vignettes are the same or equivalent.

Extrapolation Benchmarks and Families. Specialty societies will be asked to review the benchmark services and the families of services used in the extrapolations and to provide the Commission with written comments supporting any proposed changes. The Commission staff will refine an extrapolation in this step only if: (1) the RWV for the benchmark service is changed in Step I of the process; (2) the family of services for an extrapolation needs to be changed; or (3) the benchmark service for an extrapolation needs to be changed. RWVs for all other unsurveyed non-EM services will be based on extrapolations from the Hsiao study. However, all RWVs developed through extrapolation will be further refined in Step 3 of the process.

Step 3: Refinement of RWVs Developed Through Extrapolation

The extrapolations from Step 2 will be based on refined RWVs for surveyed services, the best available charge data, and the best available definitions for families of services. Nonetheless, some of the RWVs developed through extrapolation may be inaccurate. In some cases, relative charges within a family of services may not correlate well with relative work. In others, a family may be too broad because a closely related benchmark service was not surveyed in the Hsiao study. Step 3 is designed to give physicians in each specialty an opportunity to identify any such inaccuracies and to make necessary refinements.

Beginning in the summer of 1991, the Commission will convene a series of 32 specialty-specific advisory panels.[15] In a process incorporating a questionnaire and a structured group meeting, representatives of each specialty will review the RWVs for all of their non-EM services, identify RWVs that appear unreasonably high or low, and suggest refinements.[16]

This process is designed to preserve Hsiao's work relationship between broad categories of services and to minimize the potential for gaming. Thus, panelists will consider RWVs for each category of service (surgical global services, nonoperative technical procedures, imaging services, and laboratory services)[17] separately. The changes in each category will be implemented to maintain budget neutrality.

---

[15] Additional panels may be convened for specialties that were not included in the Hsiao study, such as transplant surgery.

[16] This step of the process is intended to focus on RWVs developed through extrapolation. Thus, the Commission will be cautious concerning any changes in relative values for services that were surveyed directly in the Hsiao study, especially if they appear to result only from differences in judgment between the panelists and the survey respondents.

[17] EM services are not included in this step of the process.

As an illustration, consider the work of the general surgery advisory panel. The Commission will present the members of this panel with a list of all of the non-EM services performed by general surgeons. The services will be divided by category, so that panelists will consider their surgical global services, nonoperative technical procedures, imaging services, and laboratory services separately. The list for each category will include a CPT code, descriptor, and RWV for each included service. In addition, it will identify the frequency with which each service is performed by general surgeons. This information will be used to calculate the total relative work (RWV x frequency) for each service and the total relative work for each category of service (sum of total relative work for all of the services in each category).

The constraint of budget neutrality means that the total relative work for each category of service for each specialty must remain constant. Thus, if the panel thinks that the RWVs for some of its nonoperative technical procedures are unreasonably low and should be raised, the relative work relationship among nonoperative procedures will change. But an across-the-board adjustment will be made to lower RWVs for nonoperative procedures as a whole so that the total relative work for that category will not increase.

To prepare for these panels, the Commission will determine the relative frequency with which each service is performed by each specialty.[18] National data from the Part B Medicare Annual Data Files (BMAD) are not a reliable source of frequency data for all 32 specialties because some specialties, such as rheumatology, are not recognized by many Medicare carriers. Others, such as internal medicine, represent multiple subspecialties. Carrier-specific data from the BMAD files will be helpful, however, since at least one Medicare carrier recognizes all of the specialties. Other sources of data include large group practices, HMOs, and private insurers. The Commission is currently exploring these sources and will identify the best possible options.

Step 4: Final Interspecialty Refinements

After the work of the specialty-specific panels is completed in the fall of 1991, the Commission will make the final refinements in the interspecialty scale of work. Non-EM services performed by multiple specialties will be assigned a mean RWV (weighted by the relative frequency with which each specialty performs the service).[19] An across-the-board adjustment will then be made to maintain budget neutrality for each category of service for each specialty.

---

[18] HCFA and the Commission need this information for other reasons as well. For example, it will be required to determine the conversion factor for the fee schedule and to set volume performance standards.

[19] Differences in RWVs across specialties should, for the most part, be small. If two specialties assign substantially different RWVs to a code in Step 3, Commission staff would meet with them to determine if they are performing the same service when they bill under that code. If they are performing different services, the Commission could recommend to CPT and/or HCFA that separate codes with different RWVs be used to distinguish these services.

Schedule

The Commission recognizes the need to move as quickly as possible in developing the scale of relative work for the Medicare Fee Schedule. Much of the work related to EM services and surgical global services will be completed while the Hsiao study is still in progress. But most of the tasks related to the refinement of the scale of relative work cannot be addressed until the Hsiao study is completed.

In spite of this constraint, the schedule for the refinement process is compatible with the recent legislation, which calls for a five-year transition to the fee schedule to begin in January 1992. The most substantial refinements (codes for EM and surgical global services, RWVs for EM services, RWVs for surveyed non-EM services, cross-specialty links, and benchmark services and families for extrapolations) will be completed by the summer of 1991. Thus, the Commission will have a scale of relative work for all physician services by that time. Fine-tuning of RWVs determined by extrapolation will be completed by the end of 1991, well before the fee schedule is fully implemented.

APPLYING THE SCALE OF RELATIVE WORK TO THE MEDICARE POPULATION

In the Hsiao study, each RWV reflects the relative amount of work involved in providing a service to the typical patient who receives it in the general population. But the Medicare Fee Schedule will apply to a more selective population: patients who are disabled or 65 years of age or older. If the work relationship among services differs for this population, a scale of relative work based on the typical patient would not be an accurate basis for Medicare payment.

The work involved in providing some services for typical patients and Medicare patients is probably the same. For example, services such as transurethral resection of the prostate are typically performed on the elderly population. In these cases, the typical patient is a Medicare patient. Services such as diagnostic imaging and pathology studies probably do not vary substantially in terms of work when performed on patients of different ages.

There may be differences, however, in the work involved in providing other types of services for typical and Medicare patients. For example, a visit with an elderly patient may take more time or effort than a visit with a younger patient with the same problem. In the case of EM services, the refined coding system will probably reflect these differences in work. With a coding system incorporating time, physicians would be able to use higher level codes to bill for longer visits. And, if visits with elderly patients or patients with substantial physical or cognitive impairment are shown to involve more work per unit time, the Commission/AMA consensus panel could recommend that age or frailty or both be used in the coding system to classify these visits for higher payment per unit time.

Differences in work for non-EM services may not be reflected in the coding system. For example, only one code is available to bill for each surgical global service. But it may involve more work, on average, to provide surgical global services to elderly patients than to younger patients. If this is the case, RWVs for surgical global services in which the typical patient is younger than 65 may be too low relative to other RWVs. This would be inequitable to physicians who provide such services.

The Commission is planning to identify RWVs that do not reflect the work involved in caring for Medicare patients and to obtain data to determine if these differences in work are substantial. If substantial differences are identified, the Commission will calculate Medicare adjusters for these RWVs.[20] For example, in the case of surgical global services, the Commission will work with surgical specialty societies to identify operations for which the typical patient is not a Medicare patient. The Commission will then compare intraoperative time and work and the number and duration of visits associated with each of these operations when they are performed on patients of different ages. Hospital operating room data, data from the Hsiao study, national hospital discharge data, Medicare claims data, data from HMOs, and information from specialty societies will be used in this analysis.

Medicare adjusters would tailor the scale of relative work so that it applies to the care of typical Medicare patients. But even so, payment might not be equitable to physicians who care for atypical populations. Under the CPR system, physicians who care primarily for patients with complex medical problems can charge more for their services and are sometimes allowed higher payment. But under the fee schedule, only one relative value will be assigned to each service and limits will be placed on balance billing. Thus, a severity of illness modifier may need to be developed to modify fees for physicians who care for these patients. The Commission is planning to address this issue when its work on coding reform is completed.

REFERENCES

Hsiao, W.C., P. Braun, E. Becker, et al., *A National Study of Resource-Based Relative Value Scales for Physician Services: Final Report*, Harvard School of Public Health, September 1988.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1988*, Washington, D.C., 1988.

---

[20] A Medicare adjuster would modify the RWV for the service to which it is applied by a fixed percentage. The use of adjusters would leave the underlying scale of relative work intact for use by other payers who cover more general populations.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989a.

Physician Payment Review Commission (PPRC), *Variation in Medicare Global Service* Policies: Relationship to Current Payment and Implications for a Fee Schedule, No.89-2, Washington, D.C., November 1989b.

CHAPTER 4

ESTIMATING PRACTICE EXPENSE

Under the resource-based Medicare Fee Schedule, the price of a physician's service will include payment for nonphysician resources used to provide the service. Nonphysician expenses include the costs of supplies, equipment, office space, as well as the costs of nonphysician personnel. This chapter provides a progress report on the Commission's work to develop the practice expense component of the relative value scale.

The chapter first reviews the practice expense provisions of the Omnibus Budget Reconciliation Act of 1989 (OBRA89). It then presents the accounting framework and principles that underlie the Commission's work. The final section of the chapter discusses the data and methods that will be used to estimate and refine the practice expense component.

PRACTICE EXPENSES IN THE OBRA89 LEGISLATION

The OBRA89 legislation specifies a level of funding for physician services and how funds are to be allocated among practice expense, professional liability expense, and physician work. Once these amounts have been determined, dollars in each category will be apportioned among services using relative value scales for each component.[1] Provisions of the legislation require that the relative values for practice expenses be calculated from the national average Medicare allowed charge for the service. In particular, the practice expense component for a service is defined as the national average allowed charge multiplied by the average ratio of practice expenses to gross revenue for physicians who provide the service. Each practice component will be determined as the weighted average for the specialties that provide the service.

---

[1] In this chapter, the term "services" refers to services that are identified by their Current Procedural Terminology (CPT) codes.

An example illustrates how the practice expense component for a service would be calculated according to the OBRA89 provisions. Suppose a service is provided only by internists and cardiologists. Also suppose that 50 percent of the average internist's revenues are used to cover practice expenses, while the practice expense percentage for the average cardiologist is 40 percent. Suppose 30 percent of this service is provided by internists and 70 percent by cardiologists. The practice expense percentage for the service is (50% x 0.3) + (40% x 0.7) = 43%. Thus, 43 percent of the national average allowed charge would be included in the fee schedule to cover the costs of nonphysician inputs used to provide the service.

The Congress is anticipating refinements to this method of estimating practice expense. The Commission's refinements are to be based directly on the costs of inputs used to provide individual services and the application of conventional accounting methods. These will lead to more accurate estimates of the resource costs of services that are provided by the average physician.

AN ACCOUNTING FRAMEWORK FOR PRACTICE EXPENSE ESTIMATION

The Commission's 1989 report to Congress outlined a method of estimating practice expenses based on aggregate cost data from physicians' practices (PPRC, 1989a). Costs were to be categorized by type (such as rent and equipment costs), and each type was to be assigned to services by conventional accounting rules. Work has begun during the past year to identify inputs and their costs using detailed data from medical practices. This section describes the general accounting framework that will be used for practice expense estimation. It defines direct and indirect costs and discusses the accounting methodologies used to assign indirect costs to services.

The Medicare fee will cover the full cost of nonphysician inputs used by the average physician to provide the service. This full cost is composed of direct costs (costs that can be attributed directly to the provision of specific services) and indirect costs (costs that are common to many services and cannot be traced to a particular service) that must be assigned to the service by explicit accounting methods.

Direct costs are usually subdivided into two categories: direct labor cost and direct materials cost. An example of the direct labor cost of a service is the cost of time a technician spends taking a radiograph of a patient. A direct materials cost in this example would be the cost of X-ray film. In both instances, the labor and materials can be traced directly and exclusively to the service.

Indirect costs, sometimes referred to as common costs or overhead, are shared among two or more services. Rent and a receptionist's salary are examples. For pricing purposes, however, the full cost of a service (the sum of direct plus indirect components) must be estimated, thus requiring the adoption of specific accounting conventions for the assignment of indirect costs to services. Bases that are often used by accountants to assign indirect costs are nonphysician direct labor hours (dollars) per service or group of services, total direct labor hours (dollars), and the sum of nonphysician direct labor costs plus the costs of direct materials (Horngren, 1987; Williams et al., 1982).

PRINCIPLES OF PRACTICE EXPENSE ESTIMATION

Two principles underlie the method of estimating the practice expense component. The first has always guided development of the fee schedule: the method should result in fees that are incentive neutral so that the fee schedule does not cause the physician to favor one service over another. Second, the method should produce a fee schedule that will permit the average physician to recover all practice expenses.

The first principle, incentive neutrality, reflects the view that the monetary value of assigned (indirect) costs per unit of physician involvement is equal for all services provided by the physician.[2] Departures from incentive neutrality would distort relative payments, and thus provide monetary incentives for the physician to substitute services with higher payments for services with lower payments.

To illustrate this point, consider a physician who provides two services, A and B, which require two inputs, physician time and office space. Service A requires twice as much physician time as service B. If the fee schedule is to be incentive-neutral, the cost of office space must be assigned so that there is no monetary incentive to favor either service. If the cost of office space were allocated in proportion to physician time per service, twice as much of the cost would be included in the practice expense component for service A as for service B. The payment for office space is incentive-neutral from the physician's perspective because the physician will recover the same cost each month regardless of the fraction of work time spent on A versus B.[3] Physician work per unit service, which measures the physician's input into each service for the Medicare Fee Schedule, is another basis of allocation that will be evaluated. In this case, the assignment of rent would equate dollars of rent per unit work for the two services.

---

[2] That the allocation of indirect costs should be neutral and should not influence the decision within a business to produce one service rather than another is consistent with accounting theory. For a general discussion of neutrality as a basis for allocation, see Thomas (1974). In accounting terms, this principle of incentive-neutrality requires that the contribution margin (defined here as the fee less direct costs) per unit of physician involvement should be equal for all services. The incentive neutrality principle applies to incentives based on relative values. No method of allocating overhead costs is incentive-neutral with respect to service volume.

The second principle is that the average physician should recover the costs of all practice expenses. This also means that payment for a service may not cover its cost in an inefficient practice setting.[4] The principle also implies that some physicians will not be able to recover the costs of providing a test or procedure if they cannot provide it at volumes that will keep unit cost as low as in the average practice that provides the service.[5]

DATA AND METHODS

OBRA89 specifies that the Medicare Fee Schedule will be fully implemented on January 1, 1992. At this time, a practice expense component for each physician service must be available. The Commission is studying services that account for at least 80 percent of Medicare Part B expenditures.[6]

Data for estimating practice expense will come from national surveys of physician practices and from detailed studies of a variety of individual medical practices. National survey practice data on indirect costs, augmented by accounting data from individual practices, will be used to estimate the costs of individual services and to validate practice expense estimates.

---

[3] This example can also be illustrated using the concept of contribution margin. Assume the costs of nonphysician labor for services A and B are $5.00 and $4.00, respectively. Also assume that the costs of physician time are $20.00 and $10.00 for services A and B, the cost of office space is $12.00 for the time period, and one unit of each service is produced. If the cost of office space is assigned in proportion to physician time, $8.00 would be assigned to service A and $4.00 to service B. The contribution margin per unit of physician involvement for service A, $[(20+5+8)-5]/20$, equals the contribution margin per unit of involvement for service B, $[(10+4+4)-4]/10$.

[4] Operational definitions of the average practice will be adopted to determine whether practices of different types will recover all practice costs. These definitions will be refined as practices respond to changes in incentives over time.

[5] For example, the Commission has argued that payment for mammography screening should not be set to accommodate the costs of providing the service in every physician's office, but should be based on costs in specialized centers that have a reasonable volume of service, such as in mammography centers and radiology practices (PPRC, 1989b).

[6] Practice expense estimates for these services will be used to extrapolate expenses for the remaining services. The Commission is currently designing an extrapolation plan. Families of services with similar direct costs will be created and refined as practice cost data are analyzed. Several extrapolation methods are being evaluated.

Survey Data

Several nationally representative surveys of physician practice costs are available. Surveys include the Commission's 1988 Survey of Physicians (SOP), the Periodic Surveys of Physicians by the American Medical Association, and the periodic Physician Practice Cost and Income Surveys (PPCIS) by the Health Care Financing Administration. Because respondents to these surveys have been selected from scientifically designed sampling frames, data are representative of the typical or average practice.

The Commission will use these surveys to estimate total practice cost and various components of indirect costs. Total practice cost estimates will be used to calculate the percent of Medicare funds to be allocated to the physician work and practice expense components of the fee schedule. The fraction of total cost that the average practice incurs to cover various types of indirect costs can also be estimated. For example, the percent of costs used to meet rent or mortgage payments, costs of nonmedical supplies such as office furniture, and the costs of billing will be estimated for the average practice. The Commission will use these estimates to assign indirect costs to individual services.

Data from the Commission's SOP and the 1989-90 version of the PPCIS will be used to study the tradeoffs between volume and unit costs of services that require certain types of equipment in practices of varying sizes. This work will enable the Commission to determine fair payments for the costs of equipment.

The Commission will use accounting survey data obtained periodically by the Medical Group Management Association to help identify types of direct and indirect costs associated with group practices. These data are unique and describe all sizes and specialty mixes of groups that are members of the association. They will be used to refine estimates of various types of direct and indirect costs, and to help determine how the mix of direct and indirect costs varies with practice size and specialty composition.

Data from Individual Practices

Survey data on the components of practice costs are not useful in identifying the direct costs of specific services because costs are reported in the aggregate, not by type of service. To calculate the direct cost component of the practice expense of a service, the Commission needs data from practices that provide a variety of services and maintain detailed, readily accessible accounting data. The Commission is working with several large multispecialty groups that meet these criteria, and will also collect supplementary data from a number of solo practices and smaller, single specialty group practices. Data collection will be completed by the end of 1990.

The data collection process identifies types of direct and indirect costs associated with each service. Key practice personnel--including directors of patient services, department managers, and supervisors--identify all nonphysician inputs of each service. Estimates of required amounts of supplies, nonphysician labor, and equipment are based on informed judgments, day-to-day working knowledge of the practice, and consultations with physicians, nurses, technicians, and others who provide the service. Accounting personnel then assign costs to each input. Data that are used to estimate payments to the cover the costs of equipment are also collected from the practices. Specific data items include whether the equipment was purchased or leased, acquisition price and year acquired, estimated useful life, and maintenance contract costs.

Practices also provide indirect cost data. Some indirect costs, like the administrator's salary, are common to all services provided in all departments of the practice. But some indirect costs can be specifically identified with a particular group of services. For example, the costs of clerical employees used by a department within a group practice are specific to services that are provided within the department.

The first phase of data collection at one practice is complete. Tables 4-1 and 4-2 are illustrative lists of inputs used to itemize the direct costs of a service. In general, three types of direct costs can be tabulated: the costs of clinical employees who directly assist the physician, the costs of equipment used to provide the service, and the costs of medical supplies that are specific to the service. Sources of indirect costs are the following:

- clerical employees;
- clinical employee time that is not allocated directly to specific services;
- general equipment and supplies that are used for a variety of different services;
- building expenses, including furniture and nonmedical supplies;
- billing; and
- management.

Estimation and Refinement. A practice expense component for each service will be estimated using the survey data and information from the individual practices. The practice data. The full cost of the service is obtained by adding the direct cost amount to the indirect cost assigned to the service.[7] Estimation of practice expense components will be completed by early 1991.

The Commission will determine the types and amounts of indirect cost that are assigned to each service. An illustrative set of rules that identify types of costs with services is displayed in Table 4-3. Services are divided into six categories, based on service type and site of care. The two service types are (1) evaluation and management (EM) services and (2) tests and procedures, including surgical services. The site of care further distinguishes services of each type into (1) office, (2) hospital inpatient, and (3) other (which includes services provided at the patient's home and in nursing homes).

Table 4-1. Direct Labor Costs Included in CPT Code "Biopsy of Skin" (CPT 1100)

Position	Task	Standard Time (Minutes)	Hourly Rate	Direct Labor Cost
Medical Assistant	Room patient, take history	6.00	$17.65	$1.77
Medical Assistant	Assist physician in exam, take dictation, set up for procedure	12.00	17.65	3.53
Medical Assistant	Assist with procedure, instruct patient in care, bandage site	7.00	17.65	2.06
Medical Assistant	Complete chart	6.00	17.65	1.77
Medical Assistant	Wash instruments, wrap for sterilization	5.00	17.65	1.47
Medical Assistant	Prepare path cards, enter in path book	6.00	17.65	1.77
Medical Assistant	Record receipt of report and slide	4.00	17.65	1.18
Total Direct Labor				**$13.55**

Source: Preliminary data from PPRC study of practice expenses.

---

[7] Some services currently have professional and technical payment amounts under the Medicare program. This split will be possible under OBRA89 by separating the practice expense component into direct and indirect costs. Under the Medicare Fee Schedule, the technical component of the fee is the direct cost portion of the practice expense component (including the cost of equipment owned or leased by the physician); the professional component is the sum of the monetary valuation of physician work, the professional liability expense component, and some of the indirect costs assigned to the service.

Table 4-2. **Direct Materials Costs Included in CPT Code "Biopsy of Skin" (CPT 1100)**

Description	Cost per Unit	Quantity	Direct Material Cost
Charge Sheet	$0.040	2.00	$0.08
History	0.040	1.00	0.04
Sterile Drape	0.373	1.00	0.37
Disposable Punch	1.180	1.00	1.18
Rylocaine	0.211	1.00	0.21
80 Gauge Needle	0.076	1.00	0.08
Formalin Bottle	0.070	1.00	0.07
Gauze	0.650	1.00	0.65
Polysporin	0.153	0.50	0.08
Gelfoam	1.100	1.00	1.10
Tape	0.070	1.00	0.07
Gloves	0.128	2.00	0.26
Alcohol	0.001	4.00	0.00
Path Card	0.010	1.00	0.01
Sterilization Bag	0.075	1.00	0.08
Total Direct Materials			**$4.28**

Source: Preliminary data from PPRC study of practice expenses.

Note: Total direct materials excludes equipment depreciation.

Table 4-3. The Allocation of Indirect Costs to Services

Type of Cost to be allocated	Evaluation and Management			Test and Procedures		
	Office	Inpatient	Other	Office	Inpatient	Other
Clinical employees	x			x		
General equipment and supplies				x		
Equipment and supplies for EM services	x		x			
Rent, nonmedical supplies, billing, management, clerical employees	x	x	x	x	x	x

The costs of clerical employees, rent, billing, and managerial functions will be assigned to all services provided by the practice (Table 4-3). In general, these costs are incurred regardless of the type and site of service. The costs of equipment and supplies used for EM services outside the hospital--but not for other kinds of services--are assigned only to EM services that are provided to all patients except those who are hospitalized. The indirect residual costs of clinical labor and equipment that cannot be traced to specific services are assigned over all services that are provided in the office (Table 4-3).[8] Alternative methods of assigning equipment costs to individual services are being evaluated.

The initial practice expense estimates will be refined using cost data from practices that maintain accurate records on volumes of services and total practice costs. Participating practices will represent a variety of practice sizes and types. Projected payments for practice costs based on the expense components will be compared to the practice's actual expenses. The Commission will use these results to determine whether payments will cover the costs of the average physician.

---

[8] The Commission recognizes that there are other legitimate indirect costs of practice that have not been listed in Table 4-3, such as the costs of providing medical education and the costs of uncompensated care. How these might be included in the Medicare Fee Schedule will be addressed in future work by the Commission.

The Commission also plans to simulate the effects of the practice expense components on payment for various categories of services, including those provided in the office and hospital settings, and on payments by beneficiaries. Simulations will be used to predict Medicare revenues for physicians of different specialties, in different kinds of practices, and in different geographic localities.

REFERENCES

Horngren, C. T., *Cost Accounting: A Managerial Emphasis* 6th ed., Englewood Cliffs, NJ: Prentice-Hall, 1987.

Physician Payment Review Commission (PPRC), *Annual Report to Congress, 1989*, Washington, D.C., 1989a.

Physician Payment Review Commission (PPRC), *The Costs of Providing Screening Mammography*, Washington, D.C., 1989b.

Thomas, A.L., *A Behavioral Analysis of Joint Cost Allocation and Transfer Pricing.* Urbana, IL: Stipes Publishing, 1974.

Williams, S.V., S.A. Finkler, C.M. Murphy, et al., "Improved Cost Allocation in Case-Mix Accounting," *Medical Care*, 20 (May 1982), 450-59.

CHAPTER 5

PROFESSIONAL LIABILITY INSURANCE EXPENSES

During the past decade, the costs of professional liability insurance (PLI) have increased rapidly. Between 1982 and 1987, the average PLI premium of self-employed physicians rose from $5,800 to $15,000, an annual rate of increase of 21 percent, which is 17 percent even after accounting for inflation. Premiums have grown much faster than physician revenues. In 1982, premiums amounted to 3.1 percent of the average physician's revenue; by 1987, premiums were 5.6 percent of revenue (Slora and Gonzalez, 1988).

There is considerable variation in premiums among specialties. In 1987, average PLI premiums for psychiatrists, internists, and obstetrician-gynecologists were $3,800, $8,400, and $35,300, respectively. Premium increases have been particularly large for certain specialties. Between 1985 and 1987, the average premium paid by surgeons increased from $16,600 to $24,500, representing a 22 percent average annual rate of increase. In contrast, the average PLI premium for self-employed radiologists increased from $8,900 to $9,500, an average annual rate of increase of only 3.3 percent. (Slora and Gonzalez, 1988).

In the Omnibus Budget Reconciliation Act of 1989 (OBRA89), Congress recognized the burden of PLI premiums to physicians by specifying a separate component of the relative value scale. The PLI expense component for each service is to be based on the average ratio of the PLI premium to revenue for physicians who provide the service. The legislation also directs the Commission to consider alternative approaches or refinements to the specified method.

The Commission is now studying four alternatives for PLI payment. Three were outlined in the 1989 report (PPRC, 1989a). The first, direct payment, would separate payments for PLI from the fee schedule. Medicare's share of each physician's PLI expenses would be paid directly to the physician each year. The second and third options would include payments for PLI expenses in the Medicare Fee Schedule. One would base payment on the risk class of the individual physician, and the other would base payment on the risk classes of all physicians who provide the service. The method specified by the OBRA89 legislation is an example of the latter method. More recently, a fourth option was raised. It calls for a federal agency to become the professional liability insurer for physicians who have claims filed against them by Medicare patients.

This chapter describes the four alternatives and discusses their relative merits. It begins with a discussion of various aspects of the PLI industry that are relevant to payment reform. A major theme of this section is that it will be necessary to identify PLI expenses for which Medicare should pay.

THE PROFESSIONAL LIABILITY INSURANCE INDUSTRY

Making informed judgments on how professional liability insurance expenses should be covered by Medicare requires an understanding of certain aspects of the PLI industry. The types of insurers, their rate-setting methods, and the variety of coverage options are factors that affect the premiums physicians pay for insurance. Advantages and disadvantages of the options reflect these factors.

The variety of PLI coverage packages available to physicians will make it necessary to standardize the coverage on which Medicare bases its payment to physicians. In order to compensate physicians for coverage that reflects actual risk, reasonable coverage limits in terms of dollar amounts and number of policies will have to be defined.

Design of the payment method must also take into account variations in premiums. It may be appropriate to specify a reasonable coverage package for each state and risk class and base the PLI component on the premiums a commercial or physician-owned company would charge for such coverage.

Rate-setting policies of insurers must be considered when determining how to structure Medicare's payment policy. Insurers primarily use specialty and geographic location as measures of risk, which means that for an individual physician, PLI expenses are fixed costs that seldom vary with the volume of services and patient mix. Thus, the accuracy with which physicians recover their PLI expenses is affected by whether the expense is covered through the fee schedule or covered independently of actual services provided.

Providers of Professional Liability Insurance

Determining the premium amounts that physicians should recover from Medicare is complicated by the existence of multiple sources of insurance. For the most part, however, professional liability insurers fall into two categories: physician-owned or physician-sponsored companies and commercial insurers. Currently, three commercial insurance companies write 40 percent of all policies, while 43 physician-owned companies are responsible for most of the remaining policies (American Medical Association, 1990). Typically, only two or three insurers write a substantial number of policies in each state (Danzon, 1985). Within some states there are persistent premium differentials among these insurers (Githens, 1990), while in other states the opportunities for physicians to price-compare are limited.

Other sources of PLI have arisen in response to the varying needs of physicians. These include joint underwriting associations (JUAs), patient compensation funds (PCFs), risk retention groups, surplus-line companies, and self-insurance. Both JUAs and PCFs are pools that were established by many states during the malpractice crisis of the 1970s to improve the availability of coverage.

JUAs are partly maintained by state-mandated contributions from property and casualty insurers. Originally, they served as residual sources of insurance for physicians unable to purchase commercial insurance. Premium rates of JUAs that continue to serve in this capacity tend to be higher than those of conventional insurers (American Alliance of Insurers, 1990).

Currently, eight states operate PCFs (Githens, 1990). These are designed to pay only the amount of a malpractice award not covered by a physician's base insurance. Indiana's fund, for example, pays the portion of an award in excess of $100,000; physicians must, in turn, obtain basic coverage of $100,000 per case on their own. Based on the premiums they pay for this base coverage, physicians are assessed a surcharge for PCF participation. Most states initially set the surcharge at 10 percent of the premium and have since raised this percentage to at least 100 percent (GAO, 1986).

The federal government has attempted to expand physicians' coverage options further. Under a 1986 federal law, it allowed medical specialty organizations to establish risk retention groups and purchasing groups. Risk retention groups are insurance entities formed by specialty organizations. The law allows these groups to sell coverage to their respective members within multiple states, yet they are required to register in only one state, reducing administrative costs somewhat. Some specialty organizations choose to form purchasing groups. In doing so, an organization enters into a cooperative arrangement with a commercial insurer, whereby the insurer provides coverage to the specialty members at a group discount.

Surplus-line insurance companies also increase the availability of coverage. Physicians unable to obtain coverage from conventional insurers due to unfavorable claims histories, Medicare fraud, and various other reasons must often purchase coverage from these companies. States do not regulate their rates, enabling them to set premiums at levels they deem necessary. Surplus-line premiums are often two to four times the amount of traditional premiums (Schwartz and Mendelson, 1989a).

In an attempt to reduce the costs of PLI, groups of health care providers sometimes choose to self-insure, forming captive insurance groups, rather than purchase coverage from other insurers. Captives do not operate under conventional insurance regulations, and there is no premium in the traditional sense. Instead, reserves are set aside to meet claims that arise. These reserves are often supplemented with additional liability coverage (Posner, 1986).

Rate Setting

PLI payment options are in part constrained by the industry's rate-setting practices, limiting the precision that can be achieved in categorizing providers and assigning risk and levels of payment to them. Traditionally, the industry has used broadly defined risk classes to set premium rates. Many insurers at one time relied on the Insurance Services Office (ISO)[1] to define their risk classes and provide advisory rates. Although the role of the ISO has diminished since the mid-1970s, its rating structure, built around risk class and geographic location of the physician, remains the basis for most insurers' rate-setting practices (Danzon, 1985). The differences in premium rates among these risk classes and geographic areas are generally attributable to differences in the expected number and size of malpractice judgments against those physicians (DHHS, 1987).

Risk classes are based on specialty and in some cases on whether the physician provides specific high-risk services, such as obstetrics. Most insurers use seven to eight risk classes, although many companies are now establishing new classes or subclasses for physicians who subspecialize or restrict the scope of their practices. In general, the volume of services provided and the patient mix of a practice do not affect the risk class to which a physician is assigned.

Rates for a particular risk class vary considerably from state to state. Some insurance companies also vary rates within states. For example, insurers in New York and California use as many as five rating territories. In most states, however, a single rate structure applies (Danzon, 1985).

A few physician-owned companies have instituted merit-rating programs in an attempt to assign risk more equitably. Under these programs, physicians who are at higher risk than others within their risk class[2] have a surcharge attached to their premium. Although many physician-owned companies do not have formal experience-rating programs, 90 percent report that they may levy surcharges. Typically no more than 1 to 2 percent of the policyholders at any time pay a surcharge (Schwartz and Mendelson, 1989b).

---

[1] The ISO is the leading rating bureau for all lines of property-casualty insurance, including professional liability insurance.

Coverage Limits

In order for Medicare to pay its proper share of PLI costs, it will be necessary to develop criteria that define a reasonable level of coverage. While nearly all physicians purchase some coverage,[3] there is considerable variation in the dollar amount of coverage purchased. Forty-two percent of physicians have coverage limits of $1 million per occurrence and $3 million per policy year. Eleven percent have $1 million/$1 million coverage, while coverage of $100,000/$300,000 and $200,000/$300,000 each account for 6 percent of the policies bought (Rosenbach and Stone, 1988). Differences in coverage are more likely to reflect state-to-state variations in medical and legal environments than the physician's personal choice. In addition, some health care institutions and states require a minimum level of basic liability coverage.

Some physicians purchase insurance in layers, incrementally extending the limits of their protection. For example, after obtaining base coverage, some purchase excess coverage from another company or a state-run patient compensation fund. Occasionally, a third layer, an umbrella policy, is obtained to cover professional, personal, and practice liability when total limits of other coverage are exhausted (Rosenbach and Stone, 1988).

Insurance policies also differ with respect to the claims they cover. Before the 1970s, occurrence policies were the norm. Such policies pay on any claim that stems from an incident in the policy year, regardless of when the patient eventually files his claim. This creates a long tail of covered claims, which complicates rate setting for insurers. Most commercial insurers, as well as 29 of 40 physician-owned companies, no longer offer occurrence policies and instead write claims-made policies (Githens, 1990).

Claims-made policies cover only the claims that arise during the year the physician holds the policy. Physicians who purchase claims-made policies will generally pay less in premiums than they would for occurrence policies. However, when they retire or switch to another insurer, most purchase tail coverage to protect themselves against claims that are filed after the policy is cancelled. The cost of this tail coverage is usually 1.5 to 3.0

---

[2] This determination is typically based on the number or dollar amount of claims against the practice adjudged to be the result of negligence, and sometimes on practice characteristics.

[3] A 1986 survey suggests that only 1 percent of physicians are uninsured (Rosenbach et al., 1988).

times the yearly premium. This expense is an effective barrier to changing insurers for most physicians, even if less expensive coverage is available from another company (American Medical Association, 1990).

CRITERIA FOR EVALUATING PLI PAYMENT OPTIONS

The Commission suggests that three criteria be used to assess the various PLI payment options. The first and second are those proposed for evaluation of options for covering other practice expenses (Chapter 4). First, the method should promote accuracy in the payment of PLI expenses. That is, it should ensure that payments cover Medicare's portion of the average physician's PLI costs yet place no unjustified financial burdens on beneficiaries and taxpayers. Second, the method should not introduce financial incentives to provide one service over another and should promote efficiency within physicians' practices and in their purchase of PLI. Finally, the method should be relatively easy to implement and administer.

Accuracy

Payment of PLI expenses should approximate Medicare's share of the reasonable premium for the average physician. Application of this standard first requires determining the reasonable premium for the average physician. The Commission would exclude costs of excessive coverage and surcharges based on claims experience.

Medicare is only one of many payers that are responsible for covering the costs of PLI. Its share of the reasonable premium could be defined in several ways. Medicare's share could be defined as the fraction of a physician's time or work that is spent on Medicare patients, or as the fraction of a physician's revenue that is received from the Medicare program. Since the cost of PLI constitutes an overhead expense once a physician is assigned to a risk class, it would not be appropriate to base payments on the percentage of malpractice claims attributed to Medicare patients.[4]

Neutral Incentives and Efficiency

As is the case for other practice expenses, payments for PLI expenses should not provide financial incentives that would influence physicians' practice patterns. That is, PLI payments should be incentive neutral (Chapter 4). The cost of PLI should be allocated to services so that physicians are not encouraged to substitute services with more generous PLI payments for services with lower PLI payments.

---

[4] Only 10 percent of malpractice claims against all health care providers involved Medicare patients in 1984 (GAO, 1987), yet Medicare accounts for almost 33 percent of physicians' revenues (PPRC, 1989b). Also, malpractice awards for Medicare patients were lower than those for other patients. The average malpractice award for Medicare claimants was $28,352 versus $105,250 for privately insured claimants (GAO, 1987).

The payment method should also encourage physicians to be efficient in the purchase of PLI. Efficiency will be encouraged when payment for PLI expenses is based on the cost of a reasonable insurance policy rather than the premium actually paid.

Ease of Administration

The payment methodology should be relatively easy to administer. Consideration must be given to any burdens placed on the Health Care Financing Administration (HCFA) and the carriers, as well as costs of administration. The effects of options on physicians and beneficiaries must also be evaluated. Does the option place additional administrative burdens on physicians? Will implementation require modifications or alterations to the Medicare program that will adversely affect beneficiaries?

THE DIRECT PAYMENT OPTION

Under this option, the individual physician would receive a lump sum payment from Medicare to cover the program's portion of his or her PLI expenses. As noted above, it is assumed that the proper measure of Medicare's percentage share of PLI expenses is the fraction of the physician's total practice time, work, or revenue attributable to Medicare.[5] The discussion that follows describes the method based on revenue fraction, but the other two are conceptually similar.

Methods

To determine the program's share, carriers or HCFA would annually collect information from physicians on their total PLI premiums and revenues. The physician's premium information would be examined to determine whether it includes the costs of excessive coverage or other components for which Medicare should not pay. Using the reported revenue amount and the physician's total Medicare-allowed charges[6] for the year, the carrier could compute the percentage of the physician's total revenue originating from Medicare. Medicare's share of the PLI expense would be determined by multiplying this revenue percentage by the physician's annual premium.

---

[5] For the specialties that provide more than a minimal amount of services to Medicare beneficiaries, the Commission has estimated that, on average, Medicare--including deductible, coinsurance, and balance billing amounts--accounts for 33 percent of revenues (PPRC, 1989b).

Discussion

The direct payment method is appealing in that each physician is reimbursed for Medicare's share of his or her actual, incurred costs. Furthermore, direct payment would heighten government awareness of the costs of PLI and provide information that could benefit the Medicare program. For example, compiling Medicare revenues for each physician may be useful in monitoring overbilling, establishing physician practice profiles, and in deliberations on Volume Performance Standards. There are, however, several problems that require resolution before direct payment could be considered a viable alternative.

Implementation Considerations. Direct payment would increase carrier and physician administrative responsibilities. Carriers would have to collect premium bills and data on total patient revenue from each physician seeking Medicare PLI reimbursement. Many physicians may view this financial disclosure as an invasion of privacy. Furthermore, periodic auditing of samples of physician revenues to maintain program integrity might be viewed as another intrusion into the physician's practice, as well as an added responsibility for carriers.

Implementation of this option may make it more difficult for private payers to adopt the Medicare Fee Schedule. Private insurers would have to develop their own formula to incorporate PLI payments into the fee schedule. This might be relatively simple to do, however, using aggregate information collected by Medicare and one of the fee schedule options described below.

Finally, the direct payment option may require changes in Medicare program financing. Under direct payment, the 20 percent coinsurance would not extend to the PLI expense because of its separation from the fee schedule. For example, if the PLI reimbursement were 4.5 percent of the allowed charge, coinsurance would effectively decrease to 19.1 percent (2% x .955). This would constitute a departure from longstanding policy.

---

[6] The allowed charge includes the amount paid by Medicare plus the deductible and coinsurance amounts physicians receive from their patients. Balance billing amounts would not be included in the calculation of Medicare's share.

The traditional beneficiary contribution to program expenses could be restored by a compensatory increase in the beneficiary premium.[7] This would maintain budget neutrality and preserve the cost-sharing arrangement to which beneficiaries have grown accustomed. An implication of this change, of course, is that all beneficiaries would be paying a cost that currently only users of Medicare physician services pay.

Practice Arrangement Issues. The direct payment option is most suitable for reimbursing physicians who assume the full cost of their premiums. For a physician whose hospital contributes to his or her PLI premium, reporting premium expenses for purposes of reimbursement may prove complicated. This would be the case for the 9 percent of physicians whose hospitals cover either all or a portion of their premium expenses (Rosenbach and Stone, 1988). Physicians who practice in groups that self-insure may also encounter difficulties in reporting their PLI expenses.

Reimbursement of the Reasonable Premium. Under the direct payment option, measures would have to be taken to ensure that physicians could not pass through a portion of higher premium costs that stem from surcharges, surplus-line premiums, or excessive coverage limits. Once reasonable premium amounts and coverage for various provider groups were determined, carriers would have to establish a method to screen submitted bills for excess amounts. A simple approach might be for carriers to base reimbursement solely on pre-determined reasonable premium amounts, differentiated by risk class and geographic location, and bypass the step of collecting physicians' premium bills altogether.

FEE SCHEDULE PAYMENT OPTIONS

An alternative to the direct payment approach is to pay physicians through the Medicare Fee Schedule by including an amount for PLI expenses in the fee for each service. This PLI expense component would be added to the physician work component and the practice expense component for each service. The Medicare share of PLI expenses for the average physician would be allocated over Medicare services so the PLI expense component would generate the additional revenue that the average physician needs to meet PLI expenses.

---

[7] On average, 4.5 percent of physicians' gross revenues and, thus, Medicare approved charges, go to cover the cost of PLI (Paxton, 1989). Since beneficiaries are responsible for 20 percent of the approved charge, 0.9 percent (.045 x 20 percent) of the approved charge is the amount beneficiaries are actually responsible for in covering physicians' PLI expenses. Multiplying 0.9 percent by the total approved charges for a year equals the amount for which beneficiaries must compensate the program when the PLI expense is separated from the fee schedule. By dividing this amount by the total number of program enrollees, the resulting dollar amount can be distributed across the monthly premiums. Using 1989 estimates, the beneficiary premium would increase from $31.90 to $32.68.

The amount added to each fee (the PLI expense component) could be calculated as a markup on physician involvement in the service (time or work), or on the fee itself (the sum of the work and practice expense components).

This section describes two general approaches to setting PLI expense components, the physician risk class option and the risk-of-service option. The physician risk class option is designed to reflect the large variation in PLI expenses among physicians of different risk classes. The PLI expense component would be calculated separately for each physician risk class. Within each physician risk class, the PLI component would be calculated to generate the average PLI expense for that group of physicians.

The second approach would set each PLI component according to the risk of the service rather than the risk class of the physician. A single PLI component would apply to each service and to all physicians who provide it. One version of this risk-of-service method is specified in OBRA89.

The Physician Risk Class Option

Under this option, the PLI expense component for all services provided by a physician would be determined by the physician's risk class and geographic locality. Different markups would apply to services provided by physicians in different risk classes. All physicians in a risk class in a locality would have the same markup for every service.

For example, suppose neurological, orthopedic, and thoracic surgeons constitute a single national risk class. All physicians in these three specialties within a state would have the same PLI premium expense.[8] A markup would be determined and applied to every service they provide. Services provided by orthopedic surgeons in another state would have a higher markup if their PLI expenses were higher.

Methods. The markup would be based on the PLI expenses for the average physician in the risk class adjusted for geographic differences in the costs of PLI. The markup would be set so that the average physician in the risk class would recover revenue equal to this average PLI expense.

Risk classes would be defined after consultation with physicians in different specialties and actuaries employed by insurers. A starting point is existing definitions for risk classes used by insurers. It may be possible to accommodate differences in definition of risk class among states, or it may be preferable to determine national risk classes. (Although there are some differences in the number of risk classes and relative rankings of specialties across the states, rankings in most states are very similar.)

---

[8] More precisely, they would all have the same standardized PLI premium expense as described above.

A standardized PLI expense amount can be determined for each physician risk class in each state from existing data on premiums and coverage by risk class. Each standardized amount could then be used to calculate the PLI expense components for services by physicians in that risk class and state. Alternatively, national estimates of the markup for each risk class could be calculated for the major specialties in each risk class (using data from the Physician Practice Cost and Income Survey sponsored by HCFA, or from the Commission's Survey of Physicians), and the national average amount adjusted geographically using a geographic index developed for PLI expense (Chapter 6).

A markup would be estimated for each risk class, either nationally or for each state, from the standardized amount. The markup could be based on any of several characteristics of a physician service, including the average physician time or work associated with it, or the average fee amount net of the PLI component for the service.[9] Two examples illustrate the calculation of the markup for a risk class with standardized PLI expense of $20,000. To illustrate a markup based on average time, suppose the average physician in the risk class sees patients 2500 hours per year. Then a markup of $8 per hour would be required to generate the average PLI expense, and a procedure that required 30 minutes of physician time would include a PLI expense component of $4.[10] To illustrate a markup based on the fee itself (the sum of the physician work component and the practice expense component for each service), suppose that the average practice revenue (net of revenue for PLI expenses) for physicians in this risk class is $200,000. Then a markup of 10 percent would be required to generate the average PLI expense for this risk class.

If national risk classes were used, the markup for each risk class would be adjusted for geographic differences in the cost of PLI.[11] An index that measures differences by state could be constructed from data collected by HCFA for use in calculating the Medicare Economic Index (MEI) and the geographic cost of practice index, or with data obtained by a periodic survey of major malpractice insurers.

---

[9] The fee net of the PLI expense component is the sum of the physician work component and the practice cost component.

[10] The physician time to which the markup would be applied will be determined from results of the Hsiao study and other sources.

[11] Variation in the types of PLI policies has been described. A design issue is whether the index is constructed to measure differences in the price of a standard benefit package or differences in actual PLI expenditures across states.

Implementation Issues. Administrative responsibilities under this approach would fall to both HCFA and the carriers. HCFA would determine the markups for each risk class in each state. Centralization of this function ensures that the methodology is applied consistently for all physicians. HCFA would also construct the index that adjusts for geographic differences in PLI expenses and would periodically review the definitions of Medicare risk classes. Risk classes may need to be redefined from time to time if, for example, insurers' pricing policies change.

Medicare carriers would compute the PLI expense components and incorporate them into the fee schedule. They would receive the markups for physician risk classes in their state, and use these to calculate service-based payments for Part B services for physicians in each risk class. This calculation requires that each physician's risk class be monitored and validated when appropriate, for example, when a physician's risk class changes.

Discussion. Under this option PLI payments would accurately compensate the average physician for PLI expenses.[12] This option also recognizes that private insurers currently base PLI premiums on differences in physician risk, as measured by specialty, and that the mix of services provided by the physician does not often play a role in premium determination. Physicians seem to be comfortable with this approach because PLI expenses would be treated much as they are under the present method of payment--as a fixed overhead that is allocated over all services that a physician provides.

Another advantage of this option is its administrative simplicity. The physician time, work, and practice expense components will be generated by the Hsiao study and the development of the Medicare Fee Schedule. HCFA currently has the other data needed to calculate payment markups. This option also imposes minimal administrative burdens on physicians.

Some might object to the implicit specialty differentials inherent in this option, since some services are provided by physicians in different risk classes. Setting PLI expense components by physician risk class could lead to different PLI expense components for physicians in different risk classes, so the fee schedule amounts for the same service performed by physicians of different specialties could be different. For example, a hospital follow-up visit by an orthopedic surgeon might have a different PLI payment than the same visit by a general surgeon or family physician. But this occurs because risk classes and physicians' actual PLI expenses are generally set along specialty lines. These specialty differentials reflect real differences in the costs of practice that are beyond the control of the physician. Thus, they are consistent with a resource-based fee schedule.

---

[12] For some physicians, the total payment for PLI expenses actually received may not equal the true share for the practice. This is because the potential for under- and overpayment exists whenever a fixed overhead cost is allocated across services, and because the markup is defined for the average physician in each risk class.

During 1990 the Commission will further analyze the implications of different specifications of this option. For example, the implications of the choice of markup method will be fully explored. As the discussion in Chapter 4 suggests, the assignment of indirect costs--including PLI expenses--to services will be incentive neutral only if the markup is based on physician involvement (time or work). The Commission also plans to analyze how risk class markups affect payments for services and the distribution of payments across physicians. Whether these results are sensitive to changes in definitions of risk classes and the type of markup will also be investigated.

The Risk-of-Service Option

A second way to allocate PLI expenses among services is to base payment on the liability risk of the service rather than the physician. A measure of risk would be assigned to each service or groups of services. A markup for each service (adjusted for geographic differences in the costs of PLI) would be calculated, and PLI expense components would be added to the Medicare Fee Schedule.

Methods. Ideally, calculation of the risk-of-service markup should be based on two factors. The first is the likelihood that a claim will originate from or involve the service. The second reflects the size of the average award or claim, and other expenses incurred by the insurer. Such information is not readily available, however.

A proxy for service risk is the risk class of physicians who provide the service. As specified in the OBRA89 legislation, a risk-of-service markup would be calculated as the average of the markups (described under the previous option) for all physicians who provide the service in each state. Data on the specialties of physicians who provide each service are available from the Part B Medicare Annual Data Procedure File (BMAD I) or HCFA's Common Working File (when available). This markup would reflect the average risk level of physicians in the state who provide the service.

For example, suppose 40 percent of initial office visits are provided by physicians who are in a low risk class and 60 percent are provided by physicians in a higher risk class. The risk-of-service markup is a weighted average of the markups associated with each physician class, where the low- and higher-risk weights would be 0.4 and 0.6, respectively.

Under this option, risk is defined at the level of the individual service by the distribution of physicians across risk classes. Estimation can be modified easily to reflect alternative categorizations of risk. Markups could be calculated for groups of services rather than for individual services. For example, all evaluation and management (EM) services might be grouped together, and a single markup would be used to calculate payments for these services.

Implementation Issues. In general, this option could be implemented using the administrative apparatus described for the previous option. HCFA would have responsibility for calculating the markup for each service risk class and periodically redefining risk classes as necessary. Carriers would be responsible for incorporating PLI payments into the fee schedule and monitoring physicians' specialty designations.

Discussion. The main advantage of this approach is ease of implementation. The service risk methodology is a simple extension of the provider risk class method; it could be implemented using the same data that would be used for that option. Administrative costs are not significantly different from the costs of the preceding option.

This option is consistent with a resource-based approach to payment reform as long as it is appropriate to assign risks to individual services. But since PLI premiums are not based directly on service risk, the option has a significant drawback. Average PLI expense component payments for a specialty may not correspond closely to the Medicare share of average premium for the specialty. This primarily affects physicians who are in higher risk classes and provide many services in common with physicians in risk classes that have lower premiums.

To illustrate, suppose a physician is in the highest class of risk and treats only Medicare patients. The physician provides services that are provided only by others in the same risk class. These services would have a high markup. But the physician also provides services that are often provided by lower risk physicians (such as certain EM services), and these would have lower markups. Thus, the average effective markup for the physician--that is, the share of total revenue that is actually received by the physician to cover PLI expenses--will be less than the markup corresponding to the risk class.

THE GOVERNMENT AS INSURER

Under this option, the federal government would assume the role of professional liability insurer in the treatment of Medicare patients--that is, it would insure physicians against all liability claims brought by Medicare beneficiaries. Administrative functions and the payment of claims might be financed by pooling the PLI payments that would otherwise be incorporated into the Medicare Fee Schedule.

Both the Congress and HCFA have expressed interest in further examination of this option. A starting point is to look at some of its strengths and weaknesses. Under this option, the federal government may have the opportunity to test tort reform measures in managing suits filed by Medicare patients. The Department of Health and Human Services has developed model tort reform legislation that includes provisions such as:

mandatory, nonbinding arbitration; limits of $200,000 on noneconomic awards; and a sliding scale for attorney contingency fees (DHHS, 1987). Experimentation with such reforms at the federal level may encourage other experiments within the states and help contribute to constructive solutions to malpractice problems.[13]

Another potential advantage of this approach is that the government, by taking an active role in insuring physicians, could further signal its concern about the costs of PLI. The government would have the incentive to build and monitor a national data base describing its experience.

Separation of the coverage of PLI expenses from the fee schedule raises some concerns. As noted above, separation would decrease beneficiary cost-sharing responsibilities unless, for example, the portion of the allowed charge paid by the beneficiary or the premium is increased. Separation may also complicate adoption of the fee schedule by private insurers because the schedule would not contain payments for PLI expenses.

The Commission anticipates other objections to the government's assumption of the role of insurer. Concerns about whether the government can provide coverage efficiently, whether certain tort reforms are desirable, and how physicians' PLI premiums will be affected are issues that the Commission will consider.

REFERENCES

Alliance of American Insurers, personal communication, January 24, 1990.

American College of Obstetricians and Gynecologists, Statement on draft chapter, February 20, 1990.

American Medical Association, personal communication, March 2, 1990.

Danzon, P., *Medical Malpractice: Theory, Evidence, and Public Policy*, Cambridge: Harvard University Press, 1985.

Githens, P., Vanderbilt University, Health Policy Center, personal communication, January 1990.

---

[13] Chapter 15 includes a discussion of problems with the current medical tort liability system and the need for change.

Paxton, H., "Which Practice Expenses Are Out of Control?" *Medical Economics*, pp. 91-117, November 6, 1989.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989a.

Physician Payment Review Commission (PPRC), *Medicare's Share in U.S. Physicians' Revenues*, Washington, D.C., 1989b.

Posner, J., "Trends in Medical Malpractice Insurance, 1970-1985," in R. Bovbjerg and C. Havighurst, eds., *Medical Malpractice: Can the Private Sector Find Relief?*, Durham, NC: Duke University School of Law, Spring 1986.

Rosenbach, M. and A. Stone, *Impact of Malpractice Insurance Costs on Physician Practice*, HHS Contract No. 100-86-0023, Needham, MA: Health Economics Research, Inc., May 16, 1988.

Schwartz, W. and D. Mendelson, "Physicians Who Have Lost Their Malpractice Insurance," *Journal of the American Medical Association*, 262(10):1325-41, September 8, 1989a.

Schwartz, W., and D. Mendelson, "The Role of Physician-owned Companies in the Detection and Deterrence of Negligence," *Journal of the American Medical Association*, 262 (10):1342-46, September 8, 1989b.

Slora, E. and M. Gonzalez, "Medical Professional Liability Claims and Premiums, 1985-1987," M. Gonzalez and D. Emmons, eds., in *Socioeconomic Characteristics of Medical Practice, 1988*, Chicago: American Medical Association, 1988.

U.S. Congress, House of Representatives, Committee on Ways and Means, *Background Material and Data on Programs within the Jurisdiction of the Committee on Ways and Means*, Washington, D.C.: U.S. Government Printing Office, March 15, 1989.

U.S. Department of Health and Human Services (DHHS), *Report of the Task Force on Medical Liability and Malpractice*, Washington, D.C., August 1987.

U.S. General Accounting Office (GAO), *Medical Malpractice: Case Study of Indiana*, HRD-87-21S-4, Washington, D.C., December 1986.

U.S. General Accounting Office (GAO), *Medical Malpractice: Characteristics of Claims Closed in 1984*, HRD-87-55, Washington, D.C., April 1987.

CHAPTER 6

DEFINING PAYMENT AREAS FOR THE MEDICARE FEE SCHEDULE [1]

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) specifies that payments under the Medicare Fee Schedule will be adjusted for geographic differences in the cost of practice. This is accomplished by applying a geographic practice cost index (GPCI) to national average fee schedule payment amounts. The value of the GPCI reflects the local opportunity cost of physician time and effort, the local cost of professional liability insurance, and local costs of other nonphysician practice inputs relative to national average values.[2] The legislation also increases to 10 percent the bonus payment for services provided in rural health manpower shortage areas (HMSAs) beginning in 1991, and extends the bonus to services in metropolitan HMSAs.[3]

The legislation defers the decision on defining payment areas to which the GPCI would apply and directs the Commission to study alternative approaches. It requests that the Commission assess the feasibility and desirability of retaining current charge localities or changing to a system of statewide localities, metropolitan statistical areas (MSAs), or some other geographic units for establishing fees under Medicare Part B. The Commission will report its findings and recommendations to the Congress by July 1, 1991.

---

[1] The Commission wishes to thank W. Pete Welch of The Urban Institute for his contribution to this chapter.

[2] Medicare Fee Schedule payments in an area will fully reflect the difference between nonphysician practice input costs in the area and average costs nationwide. Fee schedule payments will reflect 25 percent of the difference between an index of earnings in each area (a proxy for the opportunity cost of physician time and effort) and the national average.

[3] The Omnibus Budget Reconciliation Act of 1987 established a bonus payment of 5 percent for primary care services in class I and II rural health manpower shortage areas. As of December 31, 1986, there were 1,641 primary medical care manpower shortage areas. Total population in these areas was approximately 31.5 million, of which 53 percent were in metropolitan areas and 47 percent were in nonmetropolitan areas. These data imply that approximately 9 percent of the national metropolitan population and approximately 26 percent of the rural population reside in HMSAs. While a substantial fraction of Medicare beneficiaries may reside in HMSAs, the fraction of services for which a bonus is paid may be much smaller if beneficiaries have to travel beyond the HMSA to receive care.

PRINCIPLES AND OPTIONS

This Chapter discusses the options specified by the Congress and describes ways they might be modified to address problems identified in the Commission's preliminary assessment. Several principles should guide the design of a payment area policy. The approach adopted should allow for accurate tracking of geographic variation in input prices and should avoid large differences in payments across borders. In doing so, the approach should be simple to administer and should be understandable to physicians and beneficiaries.

This preliminary assessment considers each of these principles and discusses how well each payment area option meets them.

Accurate Tracking of Variation in Input Prices

Ideally, practice input prices should vary among payment areas but should be constant within them. The smaller the payment area, the more likely that this principle will be met.[4] However, input price data are not always available for very small areas like zip code areas and sparsely populated counties. This limits the currently feasible options to somewhat larger areas.[5]

The current prevailing charge localities could be retained as fee schedule payment areas. Medicare carriers administer customary, prevailing, and reasonable (CPR) payments in 238 different localities. They were designed to accommodate carrier-specific requirements of the CPR payment system such as computing prevailing charges. Each locality needs to contain enough physicians that the carrier can compute reliable distributions of charges from bills submitted by the physicians within the locality. In general, charge localities could be smaller in densely populated states with high concentrations of physicians than in less populous states with fewer physicians. In fact, carriers have developed an array of locality configurations, some as small as municipalities and others as large as states.

The accuracy with which the current charge localities track input prices varies with geographic definition. Some charge locality configurations track local input prices well. For example, many of the major metropolitan areas are designated as localities separate from the other parts of the state. It can be assumed that physicians practicing in a major metropolitan area will purchase practice inputs within the area at prices that are reasonably uniform. However, it is not clear whether other configurations track input prices equally well. For example, some carriers designate small metropolitan areas to be separate localities. Other carriers combine them with larger metropolitan areas in an urban locality; still others combine all urban and rural areas in a single statewide locality.

---

[4] Size of the payment area is unimportant when adjusting the Medicare Fee Schedule for geographic variation in input prices established in a national market; automobiles and supplies are often-cited examples. Size is more important when adjusting the fee schedule for geographic variation in nonphysician wages; the relevant market might be regional, statewide or even smaller. Size might be most important when making adjustments for local variation in relative prices of office space.

[5] The fewer the number of areas defined, the more each cost of practice index is an average of indexes from different markets. In this case, geographically adjusted fee levels will less closely correspond to variations in practice costs and the value of earnings.

Metropolitan statistical areas could be designated as payment areas; the remaining, nonmetropolitan counties in each state would be combined in a single rural payment area. MSAs are clusters of contiguous counties which, together, form cohesive economic and social units.[6] This cohesiveness would be maintained under the MSA/rural area configuration. The assumption underlying this configuration is that the MSA is large enough that most physicians purchase all of their inputs within its borders and homogeneous enough that input prices are uniform within the MSA. It further assumes that physicians in all rural communities in a state face the same practice input prices.

The strength of MSA/rural configuration's is that it recognizes differences in input prices among metropolitan areas and between metropolitan and rural areas. On the other hand, its weakness is that it ignores input price differences within MSAs and within the rural portion of a state. For example, relative prices might be higher in the urban core than elsewhere within larger MSAs. Likewise, prices of some inputs might be different in nonmetropolitan counties contiguous to a large MSA than in counties farther from the metropolitan center.

A configuration of state payment areas would establish uniform fee schedule payments within a state's borders. No adjustment would be made for variation in input prices across market areas within a state. Statewide payment areas are not likely to track input prices as well as the MSA/rural configuration or current charge localities because statewide areas do not recognize urban and rural differences in prices. However, those differences may not be very large in states without very large metropolitan areas.

While in principle the MSA configuration tracks prices better than the state configuration, in practice fee schedule payments might not be very different under either. In most metropolitan and rural areas, fee schedule payments established using MSA/rural payment areas differ by 10 percent or less from payments established using state payment areas (Table 6-4, page 94 of this Chapter).

---

[6] Each MSA must include at least: one city with 50,000 or more inhabitants, or a Census Bureau-defined urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England). The standards provide that the MSA include as central county(ies) the county in which the central city is located, and adjacent counties, if any, with at least 50 percent of their population in the urbanized area. Additional outlying counties are included if they meet specified requirements of commuting to the central counties and of metropolitan character (such as population density and percent urban). In New England, the MSAs are defined in terms of cities and towns rather than counties (U.S. Bureau of the Census, 1982). In this chapter, county based New England metropolitan statistical areas are substituted for MSAs as appropriate.

Some states like California and New York contain both large, densely populated metropolitan areas as well as sparsely populated rural areas. In these states, the variation in fee schedule payments under the MSA/rural configuration could be quite large. Using statewide payment areas instead would eliminate that variation. Fee schedule payments in the latter configuration would be higher in the small MSAs and rural areas of the state and lower in the largest MSAs (Table 6-1).

Table 6-1. Geographic Practice Cost Indexes in Selected Areas Under the MSA/Rural and Statewide Payment Area Configurations

Area	MSA/rural	Statewide
Los Angeles	1.13	1.11
San Francisco	1.16	1.11
Fresno	1.03	1.11
Visalia	1.02	1.11
Rural California	1.01	1.11
New York City	1.18	1.11
Binghamton	0.96	1.11
Utica	0.95	1.11
Rural New York	0.95	1.11

Source: Physician Payment Review Commission analysis of geographic practice cost index from Welch et al., 1989.

For example, fee schedule payments in rural California and rural New York would be approximately 10 percent and 16 percent greater, respectively, under a statewide payment area configuration compared to the MSA/rural alternative (Table 6-1). Conversely, fee schedule payments in San Francisco and New York City would be about 5 percent and 7 percent lower, respectively, under a statewide payment area configuration.

Avoiding Large Differences at Area Boundaries

Boundaries are an unavoidable feature of any geographic payment policy except one that establishes a single nationwide payment. Boundaries invite comparison of Medicare Fee Schedule payments in contiguous areas. Across-boundary differences in payment levels raise concerns about equity and might offer incentives for physicians to establish practices on the side with the higher payment. On the other hand, if the number of areas defined is large, differences in payments across their boundaries are more likely to be explained by differences in practice cost. In that case, physicians would be less influenced by the differences in payment levels since higher fees would be offset by higher practice costs.

Judgment on the acceptability of across-border payment differences can be informed by data on the differences in Medicare prevailing charges under the current CPR payment system. These differences are sometimes striking. In 1987 for example, prevailing charges in some of the Virginia suburbs were 32 percent lower than prevailing charges in the Washington, D.C. metropolitan locality (Table 6-2). Similarly, prevailing charges in rural Pennsylvania were 23 percent lower than in a bordering New Jersey locality.[7] Differences in prevailing charges are not necessarily restricted to localities in bordering states. Prevailing charges in the counties surrounding Poughkeepsie, New York, were approximately 20 percent lower than prevailing charges in the counties surrounding New York City. Prevailing charges were 10 percent higher in Detroit-Ann Arbor than in the adjacent locality.

At some locality borders, the differences in cost-adjusted fee schedule payments would be smaller than the differences in prevailing charges (Table 6-2). The dissimilarities are not surprising because past studies have suggested that geographic variation in prevailing charges is only partially explained by variation in practice input prices (PPRC, 1988).

Table 6-2. Payment Differences Under the CPR Prevailing Charge Index and the MFS Practice Cost Index for Selected Bordering Localities

	Percent Difference	
Bordering Localities	Prevailing Charge Index	MFS Practice Cost Index
Suburban VA - Washington DC-MD-VA	32	12
Rural PA - Newark NJ	23	13
Poughkeepsie NY - Westchester NY	20	15
Rural AZ - San Bernardino CA	18	08
Rockford IL - Chicago IL	18	08
Dekalb IL - Suburban Chicago	18	11
Rural FL - Fort Lauderdale FL	17	08
Arkansas - Shreveport LA	14	10
Rest of MI - Detroit MI	10	10
Western MD - Washington DC-VA-MD	09	09

Source: PPRC analysis of an index of prevailing charges from the Center for Health Economics Research (unpublished) and the geographic practice cost index from Welch et al., 1989.

---

[7] The Center for Health Economics Research computed the index from prevailing charges for selected physician services. They are a variant of the index described in Pope et al., 1988.

Because the Medicare Fee Schedule introduces area boundaries where they do not presently exist, the Commission will need to give special consideration to possible problems related to payment differentials across these new borders. For example, Medicare prevailing charges are presently uniform within states covered by single charge localities. Replacing the single charge localities with multiple MSA/rural payment areas would introduce payment differences and cross-border comparisons. A similar issue could arise in states which are currently covered by multiple charge localities which are not configured along MSA boundaries. Introducing MSA payment areas would introduce a new set of area boundaries in some states and differences in payments among metropolitan areas where none exits under current localities.

The magnitude of border differences in payments under the MSA/rural configuration is in keeping with the magnitude of border differences in prevailing charges under the current localities. Payment differences at most MSA/rural borders are generally 10 percent or less but they can exceed 20 percent on occasion (Table 6-3). While not trivial, the differences across MSA/rural area borders are sometimes less than the differences across neighboring charge locality borders.

Table 6-3. Contiguous Areas with Largest Percent Difference in Geographic Practice Cost Index (MSA/Rural Area Configuration)

Area	GPCI	Area	GPCI	Difference
Wisconsin	0.91	Chicago, IL	1.11	22
Virginia	0.90	Washington DC-MD-VA	1.10	21
West Virginia	0.91	Washington DC-MD-VA	1.10	20
Illinois	0.95	Chicago, IL	1.11	17
Florida	0.92	Miami, FL	1.07	16
Pennsylvania	0.95	Washington, DC-MD-VA	1.10	16
Michigan	0.97	Detroit, MI	1.12	15
Maryland	0.96	Washington DC-MD-VA	1.10	15
California	1.01	San Jose, CA	1.16	15
Mississippi	0.89	New Orleans, LA	1.01	14
Pennsylvania	0.95	Newark, NJ	1.08	14
Hagerstown, MD	0.96	Washington, DC-MD-VA	1.10	14
York, PA	0.96	Washington, DC-MD-VA	1.10	14
Orange, NY	1.04	New York, NY	1.18	13
Kenosha, WI	0.98	Chicago, IL	1.11	13
Poughkeepsie, NY	1.05	New York, NY	1.18	13
Merced, CA	1.03	San Jose, CA	1.16	13
Toledo, OH	0.99	Detroit, MI	1.12	13
Rockford, IL	0.99	Chicago, IL	1.11	12
Florida	0.92	Ft. Lauderdale, FL	1.04	12
Modesto, CA	1.04	San Jose, CA	1.16	12
Jersey City, NJ	1.06	New York, NY	1.18	12
Arkansas	0.87	Shreveport, LA	0.97	12
Allentown, PA-NJ	0.98	Middlesex, NJ	1.10	11
Oregon	0.97	Reno, NV	1.08	11

Source: PPRC analysis of geographic practice cost index from Welch et al., 1989.

Note: State names are the nonmetropolitan areas of the state.

A configuration of statewide payment areas also will invite comparisons of payment levels across borders. However, MFS payments adjusted by state would vary in a narrower range than payments adjusted by MSA/rural area (Table 6-4). In most cases, differences in payments between contiguous state areas would be less than 10 percent.

Administrative and Conceptual Simplicity

The Health Care Financing Administration (HCFA) and its carriers will be responsible for administering, adjusting, and updating the fee schedule. The area configuration employed must allow for identification of claims by payment area to insure that the correct, geographically adjusted fee schedule payment is made. The configuration employed also should be understandable to providers and to beneficiaries.

All three payment area configurations are administrable. While the configuration of charge localities is more complicated to understand, it is the basis of the present CPR payment system. Its continuation under the fee schedule would not impose additional administrative burdens. A configuration of MSAs/rural areas would be straightforward to administer and would be understandable. Currently, these are the payment areas used by the Medicare prospective payment system (PPS) for hospitals.

Finally, with only 52 areas, a system of state payment areas would be easier to administer and conceptually simple to understand.[8]

ALTERNATIVE CONFIGURATIONS

Each of the configurations discussed has features that do not fully meet the principles set out for an acceptable payment policy. The Commission is examining alternatives and modifications to these configurations that may address some of the drawbacks identified in its preliminary assessment. This section examines potential approaches to addressing several issues including: payment differences at borders; improving the tracking of input prices; and possible underpayment of physicians practicing in large metropolitan areas.

Distinctions among Nonmetropolitan Areas in the MSA/Rural Configuration

Some of the larger differences in payments across borders could be reduced by modifying the basic MSA/rural area configuration to distinguish nonmetropolitan counties contiguous to urban areas from the others.[9] The Commission will investigate alternative ways of incorporating this distinction into payment areas. One option would be a variant of the hospital PPS configuration, where some counties otherwise classified as nonmetropolitan are considered part of the contiguous MSA for purposes of Medicare payment.

---

[8] This includes 50 states, the District of Columbia, and Puerto Rico.

[9] Counties located at a distance from any MSA that have population densities above a certain level could also be considered for inclusion in the payment area for nonmetropolitan counties on the fringe of urban areas.

Alternatively, the nonmetropolitan counties in a state could be combined into two or more separate rural payment areas. The MSA/rural configuration has about 365 payment areas. Separating the rural parts of each state into two payment areas would increase that by about 50 areas. The rules for assigning counties to these different payment areas need to be developed, and should take into account proximity to a major metropolitan area, population, and population density.

The Commission will continue to examine alternative configurations of rural counties, assessing the implications of this approach for the next generation of the GPCI. Furthermore, it will assess the implications of the 10 percent bonus payment to HMSAs for the design of rural payment areas.

Separating the Urban Core As a Payment Area

Another modification would separate the urban core from the rest of the MSA or the state. New practice cost adjustment factors would be computed for these areas. The new geographic adjustment factor for the core probably would be greater than the adjustment factor for the rest of the MSA. This would reduce the potential for underpayment in central areas of very large MSAs under the statewide payment area configuration. Designating the urban core as a separate payment area under the MSA/rural configuration would also reduce the difference in payment levels between the (noncore) MSA and contiguous nonmetropolitan areas.

The urban core could be defined in terms of population density since high density is its fundamental characteristic. The density criterion could be applied to counties or zip code areas.[10] For example, the urban core could be defined as all zip code areas with population densities exceeding 5,000 people per square mile.

There are several disadvantages of this configuration. First, it is difficult to compute adjustment factors for geographic areas smaller than a MSA or county. This approach also could introduce additional border differences in payments between the urban core and surrounding areas where many physicians are likely to practice. Significant differences in payments across the borders might exert a strong influence on physicians' practice location decisions and billing practices. Finally, this configuration could be more difficult to administer, because the core areas might have to be defined by zip codes. However, that is not unprecedented; carriers currently define localities in Mississippi, Pittsburgh, Philadelphia, and Los Angeles using zip code areas.

---

[10] Using counties will be appropriate for many eastern MSAs, such as Baltimore. But counties in the west typically are larger, such that one county may comprise the entire MSA. A county based urban core makes little sense for Chicago and Los Angeles. Zip codes, however, are small enough to serve as building blocks for an urban core (Welch, 1989).

Options Allowing a Mix of Payment Area Configurations

It may be desirable to develop a policy that encompasses a mix of configurations so that payment areas can be defined in ways more suitable to the characteristics of the locations to which they apply. For example, one option might be to retain existing statewide charge localities while consolidating localities in other states into MSAs and rural areas. Many statewide localities are sparsely-populated states without a very large metropolitan area within them. For that reason, input prices should be relatively uniform within those states. Eliminating such statewide localities might not be consistent with the principles of accuracy in tracking input prices and maintaining administrative simplicity. Another option might be to preserve some substate charge localities while consolidating very small urban localities, which should have relatively uniform input prices, into metropolitan clusters.

The Commission is currently gathering the data and other information needed to assess these alternative configurations. At the same time, it is designing methods for assessing the alternatives with respect to the design principles it has specified and will present its findings in the 1991 report.

Table 6-4. Comparison of Geographic Practice Cost Index Values in MSA/Rural and Statewide Payment Areas

MSAs With Greater Than 3 Million Population

MSA Name	State	MSA/Rural	Statewide	Percent Difference
PHILADELPHIA, PA-NJ	NJ	1.07	1.07	1
WASHINGTON, DC-MD-VA	DC	1.10	1.10	0
LOS ANGELES-LONG BEACH, CA	CA	1.13	1.11	-2
BOSTON-LOWELL-BROCKTON-LAWRENCE	MA	1.06	1.04	-3
CHICAGO, IL	IL	1.11	1.06	-5
DETROIT, MI	MI	1.12	1.06	-5
WASHINGTON, DC-MD-VA	MD	1.10	1.04	-5
PHILADELPHIA, PA-NJ	PA	1.07	1.00	-6
NEW YORK, NY	NY	1.18	1.11	-7
WASHINGTON, DC-MD-VA	VA	1.10	0.96	-12

MSAs With 1 Million to 3 Million Population

MSA Name	State	MSA/Rural	Statewide	Percent Difference
BUFFALO, NY	NY	0.98	1.11	13
ST LOUIS, MO-IL	IL	1.01	1.06	5
RIVERSIDE-SAN BERNARDINO, CA	CA	1.07	1.11	4
SACRAMENTO, CA	CA	1.07	1.11	3
SAN DIEGO, CA	CA	1.07	1.11	3
TAMPA-ST. PETERSBURG-CLEAR, FL	FL	0.96	0.99	3
BALTIMORE, MD	MD	1.03	1.04	1
HARTFORD-MIDDLETOWN-NEW BRITAIN	CT	1.04	1.05	1
NORFOLK-VIRGINIA BEACH-NEWPORT	VA	0.95	0.96	1
SAN ANTONIO, TX	TX	0.93	0.93	1
CINCINNATI, OH-KY-IN	OH	0.97	0.97	0
COLUMBUS, OH	OH	0.97	0.97	0
NEWARK, NJ	NJ	1.08	1.07	0
PITTSBURGH, PA	PA	1.00	1.00	0
ANAHEIM-SANTA ANA,CA	CA	1.13	1.11	-2
BERGEN-PASSAIC, NJ	NJ	1.10	1.07	-2
DALLAS, TX	TX	0.96	0.93	-2
INDIANAPOLIS, IN	IN	0.95	0.94	-2
KANSAS CITY, MO-KS	MO	0.98	0.96	-2
PHOENIX, AZ	AZ	1.02	1.01	-2
PORTLAND, OR	OR	1.01	0.99	-2
SEATTLE, WA	WA	.03	1.01	-2
CLEVELAND, OH	OH	1.00	0.97	-3
DENVER, CO	CO	1.01	0.98	-3
OAKLAND, CA	CA	1.14	1.11	-3
CINCINNATI, OH-KY-IN	IN	0.97	0.94	-4
MILWAUKEE, WI	WI	0.99	0.95	-4
MINNEAPOLIS-ST PAUL, MN-WI	MN	1.01	0.97	-4
ST LOUIS, MO-IL	MO	1.01	0.96	-4
ATLANTA, GA	GA	0.98	0.94	-5

Table 6-4. - Continued

CINCINNATI, OH-KY-IN	KY	0.97	0.92	-5
FORT LAUDERDALE-HOLLYWOOD-POMPA	FL	1.04	0.99	-5
HOUSTON, TX	TX	0.98	0.93	-5
KANSAS CITY, MO-KS	KS	0.98	0.93	-5
NEW ORLEANS, LA	LA	1.01	0.96	-5
SAN FRANCISCO, CA	CA	1.16	1.11	-5
SAN JOSE, CA	CA	1.16	1.11	-5
MINNEAPOLIS-ST PAUL, MN-WI	WI	1.01	0.95	-6
NASSAU-SUFFOLK, NY	NY	1.17	1.11	-6
MIAMI-HIALEAH, FL	FL	1.07	0.99	-8

MSAs With Less Than 1 Million Population

MSA Name	State	MSA/Rural	Statewide	Percent Difference
UTICA-ROME, NY	NY	0.95	1.11	16
BINGHAMTON, NY	NY	0.96	1.11	15
ELMIRA, N	NY	0.96	1.11	15
GLENS FALLS, NY	NY	0.96	1.11	15
NIAGARA FALLS, NY	NY	0.98	1.11	13
SYRACUSE, NY	NY	0.98	1.11	13
ALBANY-SCHENECTADY-TROY, NY	NY	0.99	1.11	12
CUMBERLAND,MD-W VA	MD	0.94	1.04	11
CHAMPAIGN-URBANA-RANTOUL, IL	IL	0.96	1.06	10
CHICO, CA	CA	1.01	1.11	10
ALLENTOWN-BETHLEHEM, PA-NJ	NJ	0.98	1.07	9
KANKAKEE, IL	IL	0.97	1.06	9
YUBA CITY, CA	CA	1.02	1.11	9
BENTON HARBOR, MI	MI	0.98	1.06	8
DAVENPORT-ROCK ISLAND-MOLINE, I	IL	0.98	1.06	8
HAGERSTOWN, MD	MD	0.96	1.04	8
MERCED, CA	CA	1.03	1.11	8
ROCHESTER, NY	NY	1.02	1.11	8
VISALIA-TULARE-PORTERVILLE, CA	CA	1.02	1.11	8
DECATUR, IL	IL	0.99	1.06	7
FRESNO, CA	CA	1.03	1.11	7
MODESTO, CA	CA	1.04	1.11	7
MUSKEGON, MI	MI	0.99	1.06	7
OCALA, FL	FL	0.93	0.99	7
REDDING, CA	CA	1.04	1.11	7
ROCKFORD, IL	IL	0.99	1.06	7
VINELAND-MILLVILLE-BRIDGETON, N	NJ	1.00	1.07	7
ALTOONA, PA	PA	0.94	1.00	6
BLOOMINGTON-NORMAL, IL	IL	0.99	1.06	6
FORT WALTON BEACH, FL	FL	0.94	0.99	6
GRAND RAPIDS, MI	MI	1.00	1.06	6
JOHNSON CITY-KINGSPORT-BRISTOL,	VA	0.91	0.96	6
LYNCHBURG, VA	VA	0.91	0.96	6
NEW BEDFORD-FALL RIVER-ATTLEBOR,	MA	0.98	1.04	6
ORANGE COUNTY, NY	NY	1.04	1.11	6
PANAMA CITY, FL	FL	0.94	0.99	6
POUGHKEEPSIE, NY	NY	1.05	1.11	6

Table 6-4. - Continued

SCRANTON-WILKES BARRE, PA	PA	0.95	1.00	6
SPRINGFIELD, IL	IL	1.00	1.06	6
STOCKTON, CA	CA	1.05	1.11	6
ATLANTIC CITY, NJ	NJ	1.03	1.07	5
BAKERSFIELD, CA	CA	1.06	1.11	5
BATTLE CREEK, MI	MI	1.01	1.06	5
DANVILLE, VA	VA	0.91	0.96	5
JOHNSTOWN, PA	PA	0.96	1.00	5
KALAMAZOO, MI	MI	1.01	1.06	5
MCALLEN-EDINBURG-MISSION, TX	TX	0.89	0.93	5
PITTSFIELD, MA	MA	0.99	1.04	5
SPRINGFIELD,MA	MA	0.99	1.04	5
WILLIAMSPORT, PA	PA	0.95	1.00	5
GAINESVILLE, FL	FL	0.95	0.99	4
GREELEY, CO	CO	0.94	0.98	4
JACKSON, MI	MI	1.01	1.06	4
LAKELAND-WINTER HAVEN, FL	FL	0.95	0.99	4
LANSING-EAST LANSING, MI	MI	1.01	1.06	4
LAREDO, TX	TX	0.90	0.93	4
LUBBOCK, TX	TX	0.90	0.93	4
PARKERSBURG-MARIETTA, WV-OH	OH	0.93	0.97	4
PENSACOLA, FL	FL	0.95	0.99	4
ROANOKE, VA	VA	0.93	0.96	4
ST JOSEPH, MO	MO	0.93	0.96	4
TALLAHASSEE, FL	FL	0.95	0.99	4
TERRE HAUTE, IN	IN	0.90	0.94	4
TEXARKANA, TX-TEXARKANA, AR	TX	0.90	0.93	4
WILMINGTON, DE-NJ-MD	NJ	1.03	1.07	4
WORCESTER-FITCHBURG-LEOMINSTER,	MA	1.00	1.04	4
YORK, PA	PA	0.96	1.00	4
ABILENE, TX	TX	0.91	0.93	3
AURORA-ELGIN, IL	IL	1.03	1.06	3
BLOOMINGTON, IN	IN	0.91	0.94	3
CHARLOTTESVILLE, VA	VA	0.94	0.96	3
COLORADO SPRINGS, CO	CO	0.95	0.98	3
COLUMBUS, GA-AL	GA	0.91	0.94	3
ERIE, PA	PA	0.97	1.00	3
FARGO-MOORHEAD, ND-MN	MN	0.94	0.97	3
FORT SMITH, AR-OK	OK	0.89	0.92	3
HUNTINGTON-ASHLAND,WV-KY-OH	OH	0.94	0.97	3
JOPLIN, MO	MO	0.93	0.96	3
KILLEEN-TEMPLE, TX	TX	0.91	0.93	3
LAFAYETTE, IN	IN	0.92	0.94	3
LANCASTER, PA	PA	0.97	1.00	3
LAS CRUCES, NM	NM	0.92	0.95	3
LEWISTON-AUBURN, ME	ME	0.91	0.93	3
MANSFIELD, OH	OH	0.94	0.97	3
MONROE, LA	LA	0.93	0.96	3
READING, PA	PA	0.97	1.00	3
RICHMOND-PETERSBURG, VA	VA	0.94	0.96	3
SAGINAW-BAY CITY-MIDLAND, MI	MI	1.03	1.06	3
ST CLOUD, MN	MN	0.94	0.97	3
SALINAS-SEASIDE-MONTEREY, CA	CA	1.07	1.11	3
SAN ANGELO, TX	TX	0.91	0.93	3

Table 6-4. - Continued

SANTA BARBARA-SANTA MARIA-LOMPO	CA	1.08	1.11	3
SHARON,PA	PA	0.97	1.00	3
SPOKANE, WA	WA	0.98	1.01	3
SPRINGFIELD, MO	MO	0.94	0.96	3
STATE COLLEGE,PA	PA	0.98	1.00	3
VALLEJO-FAIRFIELD-NAPA, CA	CA	1.07	1.11	3
WACO, TX	TX	0.91	0.93	3
WHEELING, WV-OH	OH	0.94	0.97	3
ALEXANDRIA, LA	LA	0.94	0.96	2
ALLENTOWN-BETHLEHEM, PA-NJ	PA	0.98	1.00	2
AMARILLO, TX	TX	0.92	0.93	2
ANN ARBOR, MI	MI	1.04	1.06	2
ATHENS, GA	GA	0.92	0.94	2
BEAVER COUNTY, PA	PA	0.98	1.00	2
BRADENTON, FL	FL	0.97	0.99	2
BROWNSVILLE-HARLINGEN, TX	TX	0.92	0.93	2
CLARKSVILLE-HOPKINSVILL, TN-KY	KY	0.91	0.92	2
COLUMBIA, MO	MO	0.95	0.96	2
COLUMBUS, GA-AL	AL	0.91	0.93	2
DAYTONA BEACH, FL	FL	0.97	0.99	2
EAU CLAIRE, WI	WI	0.93	0.95	2
FORT COLLINS-LOVELAND, CO	CO	0.96	0.98	2
HICKORY, NC	NC	0.88	0.90	2
LA CROSSE, WI	WI	0.93	0.95	2
LAKE CHARLES, LA	LA	0.94	0.96	2
LIMA, OH	OH	0.95	0.97	2
MUNCIE, IN	IN	0.92	0.94	2
NEW HAVEN-WEST HAVEN-WATERBURY-	CT	1.03	1.05	2
NEW LONDON-NORWICH, CT-RI	CT	1.03	1.05	2
PEORIA, IL	IL	1.03	1.06	2
PROVO-OREM, UT	UT	0.94	0.96	2
SANTA ROSA-PETALUMA, CA	CA	1.08	1.11	2
SHEBOYGAN, WI	WI	0.94	0.95	2
SHERMAN-DENISON, TX	TX	0.91	0.93	2
WICHITA FALLS, TX	TX	0.91	0.93	2
YAKIMA, WA	WA	0.99	1.01	2
ALBANY, GA	GA	0.93	0.94	1
ANCHORAGE, AK	AK	1.16	1.16	1
ANDERSON, IN	IN	0.93	0.94	1
APPLETON-OSHKOSH-NEENAH, WI	WI	0.94	0.95	1
AUGUSTA, GA-SC	GA	0.93	0.94	1
BELLINGHAM, WA	WA	1.01	1.01	1
CANTON, OH	OH	0.96	0.97	1
CHATTANOOGA, TN-GA	GA	0.92	0.94	1
DULUTH, MN-WI	MN	0.96	0.97	1
EL PASO, TX	TX	0.93	0.93	1
FAYETTEVILLE-SPRINGDALE, AR	AR	0.87	0.88	1
FORT MYERS-CAPE CORAL, FL	FL	0.98	0.99	1
GADSDEN, AL	AL	0.92	0.93	1
HARRISBURG-LEBANON-CARLISE, PA	PA	0.99	1.00	1
HOUMA-THIBODAUX,LA	LA	0.95	0.96	1
JACKSONVILLE, FL	FL	0.97	0.99	1
JANESVILLE-BELOIT, WI	WI	0.95	0.95	1

Table 6-4. - Continued

JERSEY CITY, NJ	NJ	1.06	1.07	1
JOLIET, IL	IL	1.04	1.06	1
LAWRENCE, KS	KS	0.93	0.93	1
LAWTON, OK	OK	0.91	0.92	1
LONGVIEW-MARSHALL, TX	TX	0.93	0.93	1
MACON-WARNER ROBINS, GA	GA	0.93	0.94	1
MEDFORD, OR	OR	0.98	0.99	1
MELBOURNE-TITUSVILLE, FL	FL	0.97	0.99	1
MONMOUTH-OCEAN, NJ	NJ	1.06	1.07	1
ORLANDO, FL	FL	0.98	0.99	1
OXNARD-VENTURA, CA	CA	1.09	1.11	1
SALEM, OR	OR	0.98	0.99	1
SANTA CRUZ, CA	CA	1.09	1.11	1
SOUTH BEND-MISHAWAKA, IN	IN	0.93	0.94	1
STEUBENVILLE-WEIRTON, OH-WV	OH	0.96	0.97	1
VANCOUVER, WA	WA	1.00	1.01	1
WAUSAU, WI	WI	0.94	0.95	1
WILMINGTON, DE-NJ-MD	MD	1.03	1.04	1
ANDERSON, SC	SC	0.90	0.90	0
ANNISTON, AL	AL	0.93	0.93	0
ASHEVILLE, NC	NC	0.90	0.90	0
BANGOR, ME	ME	0.93	0.93	0
BOULDER-LONGMONT, CO	CO	0.98	0.98	0
CLARKSVILLE-HOPKINSVILL, TN-KY	TN	0.91	0.91	0
CORPUS CHRISTI, TX	TX	0.94	0.93	0
DOTHAN, AL	AL	0.93	0.93	0
ELKHART-GOSHEN, IN	IN	0.94	0.94	0
ENID, OK	OK	0.92	0.92	0
EUGENE-SPRINGFIELD, OR	OR	0.99	0.99	0
EVANSVILLE, IN-KY	IN	0.93	0.94	0
FLORENCE, SC	SC	0.90	0.90	0
FORT PIERCE, FL	FL	0.98	0.99	0
FORT WORTH-ARLINGTON, TX	TX	0.93	0.93	0
GREEN BAY, WI	WI	0.95	0.95	0
HONOLULU, HI	HI	1.05	1.04	0
JACKSON, TN	TN	0.91	0.91	0
JACKSONVILLE, NC	NC	0.90	0.90	0
JOHNSON CITY-KINGSPORT-BRISTOL,	TN	0.91	0.91	0
KNOXVILLE, TN	TN	0.91	0.91	0
LAKE COUNTY, IL	IL	1.06	1.06	0
LAS VEGAS, NV	NV	1.06	1.06	0
LORAIN-ELYRIA, OH	OH	0.97	0.97	0
LOUISVILLE, KY-IN	IN	0.94	0.94	0
OMAHA, NE-IA	IA	0.93	0.93	0
OWENSBORO, KY	KY	0.93	0.92	0
PARKERSBURG-MARIETTA, WV-OH	WV	0.93	0.93	0
PROVIDENCE-PAWTUCKET-WOONSOCKET	RI	0.99	0.99	0
PUEBLO, CO	CO	0.98	0.98	0
ROCHESTER, MN	MN	0.98	0.97	0
SARASOTA, FL	FL	0.99	0.99	0
SAVANNAH, GA	GA	0.93	0.94	0
TACOMA, WA	WA	1.01	1.01	0
TRENTON, NJ	NJ	1.07	1.07	0

Table 6-4. - Continued

TUCSON, AZ	AZ	1.00	1.01	0
TUSCALOOSA, AL	AL	0.93	0.93	0
TYLER, TX	TX	0.94	0.93	0
WEST PALM BEACH-BOCA RATON-DELR	FL	0.99	0.99	0
WILMINGTON, NC	NC	0.91	0.90	0
YOUNGSTOWN-WARREN, OH	OH	0.97	0.97	0
AKRON, OH	OH	0.98	0.97	-1
AUSTIN, TX	TX	0.94	0.93	-1
BATON ROUGE, LA	LA	0.97	0.96	-1
BRYAN-COLLEGE STATION, TX	TX	0.94	0.93	-1
CUMBERLAND,MD-W VA	WV	0.94	0.93	-1
DAYTON-SPRINGFIELD, OH	OH	0.97	0.97	-1
DUBUQUE, IA	IA	0.94	0.93	-1
DULUTH, MN-WI	WI	0.96	0.95	-1
EVANSVILLE, IN-KY	KY	0.93	0.92	-1
FAYETTEVILLE, NC	NC	0.91	0.90	-1
FLINT, MI	MI	1.07	1.06	-1
FLORENCE, AL	AL	0.94	0.93	-1
FORT SMITH, AR-OK	AR	0.89	0.88	-1
FORT WAYNE, IN	IN	0.95	0.94	-1
GRAND FORKS, ND	ND	0.93	0.92	-1
GREAT FALLS, MT	MT	0.95	0.94	-1
GREENVILLE-SPARTANBURG, SC	SC	0.91	0.90	-1
HAMILTON-MIDDLETOWN, OH	OH	0.98	0.97	-1
IOWA CITY, IA	IA	0.95	0.93	-1
LAFAYETTE, LA	LA	0.96	0.96	-1
LEXINGTON-FAYETTE, KY	KY	0.94	0.92	-1
MADISON, WI	WI	0.96	0.95	-1
MOBILE, AL	AL	0.94	0.93	-1
MONTGOMERY, AL	AL	0.94	0.93	-1
NAPLES, FL	FL	1.00	0.99	-1
PINE BLUFF, AR	AR	0.89	0.88	-1
PORTSMOUTH-DOVER-ROCHESTER,NH	NH	0.98	0.96	-1
SALT LAKE CITY-OGDEN, UT	UT	0.97	0.96	-1
SHREVEPORT, LA	LA	0.97	0.96	-1
SIOUX CITY, IA-NE	IA	0.94	0.93	-1
TOPEKA, KS	KS	0.94	0.93	-1
ALBUQUERQUE, NM	NM	0.97	0.95	-2
AUGUSTA, GA-SC	SC	0.93	0.90	-2
BEAUMONT-PORT ARTHUR, TX	TX	0.95	0.93	-2
BIRMINGHAM, AL	AL	0.95	0.93	-2
BREMERTON, WA	WA	1.03	1.01	-2
BURLINGTON, NC	NC	0.92	0.90	-2
CHARLESTON, SC	SC	0.92	0.90	-2
CHARLOTTE-GASTONIA-ROCK HILL, N	NC	0.92	0.90	-2
CHARLOTTE-GASTONIA-ROCK HILL, N	SC	0.92	0.90	-2
CHATTANOOGA, TN-GA	TN	0.92	0.91	-2
CHEYENNE, WY	WY	0.97	0.95	-2
COLUMBIA, SC	SC	0.92	0.90	-2
FARGO-MOORHEAD, ND-MN	ND	0.94	0.92	-2
GALVESTON-TEXAS CITY, TX	TX	0.95	0.93	-2
GREENSBORO-WINSTON-SALEM-HIGH P	NC	0.92	0.90	-2
HUNTINGTON-ASHLAND,WV-KY-OH	KY	0.94	0.92	-2
HUNTINGTON-ASHLAND,WV-KY-OH	WV	0.94	0.93	-2
HUNTSVILLE, AL	AL	0.95	0.93	-2

Table 6-4. - Continued

KOKOMO, IN	IN	0.96	0.94	-2
LINCOLN, NE	NE	0.91	0.90	-2
LOUISVILLE, KY-IN	KY	0.94	0.92	-2
MANCHESTER-NASHUA, NH	NH	0.98	0.96	-2
MEMPHIS, TN-AR-MS	TN	0.93	0.91	-2
MIDDLESEX-SOMERSET-HUNTERDON, N	NJ	1.10	1.07	-2
OKLAHOMA CITY, OK	OK	0.94	0.92	-2
OLYMPIA, WA	WA	1.03	1.01	-2
RAPID CITY, SD	SD	0.92	0.90	-2
RENO, NV	NV	1.08	1.06	-2
RICHLAND-KENNEWICK, WA	WA	1.04	1.01	-2
TEXARKANA, TX-TEXARKANA, AR	AR	0.90	0.88	-2
TOLEDO, OH	OH	0.99	0.97	-2
VICTORIA, TX	TX	0.95	0.93	-2
WHEELING, WV-OH	WV	0.94	0.93	-2
BILLINGS, MT	MT	0.97	0.94	-3
BILOXI-GULFPORT, MS	MS	0.93	0.90	-3
BISMARK, ND	ND	0.95	0.92	-3
BOISE CITY,IDAHO	ID	0.98	0.95	-3
BRAZORIA, TX	TX	0.97	0.93	-3
CEDAR RAPIDS, IA	IA	0.96	0.93	-3
KENOSHA, WI	WI	0.98	0.95	-3
MEMPHIS, TN-AR-MS	MS	0.93	0.90	-3
NASHVILLE, TN	TN	0.94	0.91	-3
ODESSA, TX	TX	0.97	0.93	-3
OMAHA, NE-IA	NE	0.93	0.90	-3
PASCAGOULA, MS	MS	0.93	0.90	-3
RALEIGH-DURHAM, NC	NC	0.93	0.90	-3
STEUBENVILLE-WEIRTON, OH-WV	WV	0.96	0.93	-3
TULSA, OKO	K0	0.95	0.92	-3
WATERLOO-CEDAR FALLS, IA	IA	0.96	0.93	-3
WICHITA, KS	KS	0.96	0.93	-3
WILMINGTON, DE-NJ-MD	DE	1.03	1.00	-3
BURLINGTON, VT	VT	0.96	0.92	-4
DES MOINES, IA	IA	0.97	0.93	-4
JACKSON, MS	MS	0.94	0.90	-4
LITTLE ROCK-NORTH LITTLE ROCK,	AR	0.92	0.88	-4
RACINE, WI	WI	0.99	0.95	-4
SIOUX FALLS, SD	SD	0.93	0.90	-4
BRIDGEPORT-STAMFORD-NORWALK-DAN	CT	1.10	1.05	-5
CHARLESTON, WV	WV	0.98	0.93	-5
DAVENPORT-ROCK ISLAND-MOLINE, I	IA	0.98	0.93	-5
MEMPHIS, TN-AR-MS	AR	0.93	0.88	-5
MIDLAND, TX	TX	0.98	0.93	-5
PORTLAND, ME	ME	0.98	0.93	-5
SANTA FE, NM	NM	1.00	0.95	-5
SIOUX CITY, IA-NE	NE	0.94	0.90	-5
CASPER, WY	WY	1.01	0.95	-6
GARY-HAMMOND, IN	IN	1.00	0.94	-6

Table 6-4. - Continued

Nonmetropolitan Areas Within States			
Rural Area	MSA/Rural	Statewide	Percent Difference
Northeast			
NEW YORK	0.95	1.11	16
MASSACHUSETTS	0.98	1.04	6
PENNSYLVANIA	0.95	1.00	6
CONNECTICUT	1.00	1.05	5
NEW HAMPSHIRE	0.94	0.96	2
RHODE ISLAND	0.97	0.99	2
MAINE	0.92	0.93	1
VERMONT	0.91	0.92	1
North Central			
ILLINOIS	0.95	1.06	11
MICHIGAN	0.97	1.06	9
MINNESOTA	0.93	0.97	5
MISSOURI	0.92	0.96	5
KANSAS	0.90	0.93	4
WISCONSIN	0.91	0.95	4
INDIANA	0.91	0.94	3
OHIO	0.94	0.97	3
IOWA	0.91	0.93	2
NEBRASKA	0.88	0.90	2
NORTH DAKOTA	0.91	0.92	1
SOUTH DAKOTA	0.89	0.90	1
West			
CALIFORNIA	1.01	1.11	9
NEVADA	1.01	1.06	5
ARIZONA	0.97	1.01	4
COLORADO	0.90	0.98	4
WASHINGTON	0.98	1.01	3
NEW MEXICO	0.93	0.95	2
OREGON	0.97	0.99	2
WYOMING	0.93	0.95	2
HAWAII	1.03	1.04	1
IDAHO	0.94	0.95	1
MONTANA	0.93	0.94	1
UTAH	0.96	0.96	1
ALASKA	1.17	1.16	-1
South			
MARYLAND	0.96	1.04	9
DELAWARE	0.94	1.00	7
FLORIDA	0.92	0.99	7
VIRGINIA	0.90	0.96	7
GEORGIA	0.89	0.94	5
LOUISIANA	0.91	0.96	5
TEXAS	0.89	0.93	5
OKLAHOMA	0.89	0.92	3
TENNESSEE	0.88	0.91	3
ALABAMA	0.91	0.93	2
ARKANSAS	0.87	0.88	2
KENTUCKY	0.91	0.92	2
NORTH CAROLINA	0.89	0.90	2
SOUTH CAROLINA	0.89	0.90	2
WEST VIRGINIA	0.91	0.93	2
MISSISSIPPI	0.89	0.90	1

Source: PPRC analysis of geographic practice cost index from Welch et al., 1989.

Note: The table contains a separate entry for each combination of MSA and state for multistate MSAs.

REFERENCES

Physician Payment Review Commission (PPRC), *Annual Report to Congress*, Washington, D.C.,1988.

Pope, Gregory C., S. Hurdle and J. Posner, *An Index of Medicare Prevailing Charges*, Needham, MA: The Center for Health Economics Research, March 1988.

U.S. Bureau of the Census, *Statistical Abstract of the United States 1982-83*, 103rd. ed., Washington, D.C.: U.S. Government Printing Office, December 1982.

Welch, W.P., "Improving Medicare Payments to HMOs: Urban Core Versus Suburban Ring," *Inquiry* 26:62-71, Spring 1989.

Welch, W.P., S. Zuckerman, and G. Pope, *The Geographic Medicare Economic Index: Alternative Approaches*, working paper 3839-01-01, Washington, D.C.: The Urban Institute, June 1989.

CHAPTER 7

ACCURACY OF GEOGRAPHIC ADJUSTERS IN RURAL AREAS

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) specified that Medicare Fee Schedule payments will be adjusted for geographic differences in practice costs. The fee schedule payment amount in an area will be the product of a national average amount and a geographic practice cost index (GPCI). The Commission noted in its 1989 report to Congress that the current GPCI might not reflect the true costs of physician services in rural areas. If the GPCI were to understate rural practice costs, physicians in rural areas would not receive the full benefit of the reforms recently enacted by the Congress. That could discourage physicians from practicing in rural areas and could reduce beneficiary access to care.

The Commission first expressed its concern about payment to physicians in rural areas in its 1987 report to Congress.[1] It concluded then that to ensure beneficiary access to care in rural areas and to provide equitable payments to rural physicians, the customary, prevailing, and reasonable (CPR) charge payment system should be replaced with a resource-based fee schedule. Since then, the Commission has been gathering information and working with experts on rural health care to strengthen the database needed to account accurately for rural practice costs in the Medicare Fee Schedule.[2]

Improving access to care and equity in payments in rural areas has been a priority in the Congress. In OBRA87 the Congress implemented a 5 percent incentive payment for primary care services provided by physicians in certain rural health manpower shortage areas (HMSAs). Subsequently, in OBRA89, the Congress increased the bonus to 10 percent and expanded coverage to all HMSAs. The Senate Committee on Appropriations (U.S. Congress, 1989a) asked the Commission to monitor closely the impact of the cost of practice index on physician supply in rural areas and include ongoing analysis of this in its annual reports. In addition, in OBRA89, the Congress called on the Commission to study the accuracy of available geographic practice cost indexes as they apply in rural areas and to report its findings by July 1, 1991.

---

[1] To begin to redress the inequity in payment to rural physicians, the Commission recommended that Medicare pay an additional amount above the approved charge for primary care services provided in health manpower shortage areas (PPRC, 1987).

[2] In November 1988, the Commission conducted a national survey of physicians, including those in rural practice, to gather data on practice costs. In September 1989 the Commission held a hearing on the costs of practicing medicine in rural areas (summarized in Appendix C).

This chapter describes the current GPCI and explains why it might not track rural practice costs accurately. It identifies aspects of practice costs that might not be amenable to adjustment by any GPCI and describes work in progress to estimate the extent of these shortcomings.

DESCRIPTION OF THE CURRENT GPCI

The only comprehensive geographic adjustment factor presently available is the GPCI developed by the Urban Institute and the Center for Health Economics Research under a grant from the Health Care Financing Administration.[3] The current GPCI is an index that summarizes geographic variation in the prices of labor and nonlabor inputs to physician practices. These inputs, which are reflected in the components of the Medicare Fee Schedule, are: physician time and effort, professional liability insurance, and other nonphysician inputs such as office space, nonphysician labor, medical equipment, supplies, and automobiles.[4]

The value of the index for an area is the sum of relative prices in the area for each input weighted by their cost shares. The cost shares are the proportion of practice revenues associated with each input. The greater the cost-share weight and the greater the relative price of the input to which it is applied, the greater the value of the GPCI.

Physicians purchase professional liability insurance and the other nonphysician inputs in local markets. These local prices are used in computing the index value for an area. By contrast, there are no usable market prices for physician time and effort. Because comparable cost-of-living data are unavailable in many geographic areas, data on earnings of nonphysician professionals are used to value the physician time and effort component of the index.

---

[3] For a discussion of the specification and development of the index, including values in particular areas, see Welch, et al., 1989.

[4] Under OBRA89, the fee schedule amount for a service is the product of a national conversion factor, a geographic adjustment factor, and the relative value of the service. The overall relative value summarizes the value of three component elements: physician time and effort, professional liability insurance, and other elements of practice costs. Similarly, the overall geographic adjustment factor summarizes the values of geographic adjustments to those three components.

Geographic practice cost index values were constructed for each of 317 metropolitan statistical areas (MSAs) and for nonmetropolitan areas in 49 states.[5] Moreover, values for the GPCI were estimated for the 237 Medicare carrier prevailing charge localities.[6] A single set of cost-share weights was used to compute the GPCI in all areas, rural and urban alike (Table 7-1). The weights are based on practice revenue data for 1987 from a national sample survey of physicians.

Table 7-1. GPCI Input Categories and Cost Share Weights

Input Category	Cost Share (percent)
Physician time and effort	54
Professional liability insurance	06
Nonphysician employees	16
Office space	11
Equipment, medical supplies, and other items	13

Source: Welch et al., 1989.

Note: Equipment, medical supplies, and other items account for 2 percent, 5 percent, and 6 percent shares of total practice costs, respectively. The category "other" includes automobile expenses, the cost of continuing medical education, other supplies, and miscellaneous items.

---

[5] The nonmetropolitan area of a state incorporates all counties that are outside of Metropolitan Statistical Areas or New England County Metropolitan Areas. Only New Jersey has no nonmetropolitan counties. In the other states, the nonmetropolitan areas are often referred to as rural areas. However, there is no consensus definition of rural areas among various federal programs (U.S. Congress, 1989b).

[6] Current charge localities can be states, counties, metropolitan areas, and communities, among other geographic configurations. GPCI values for localities were computed from the index values for corresponding MSAs and nonmetropolitan areas.

Physician time and effort has the greatest weight of any category, but OBRA89 limits its impact on the fee schedule. The legislation specified that only 25 percent of the variation in the opportunity cost of physician time and effort is to be reflected by the geographic index.[7]

The current GPCI assumes that the prices of equipment, supplies, and automobiles are set in national markets and do not vary by geographic area. The Commission will evaluate that assumption and its implications for fee schedule payments in rural areas. The GPCI accounts for much or all of the geographic variation in prices of professional liability insurance, nonphysician labor, and office space.

Because primary data on the prices of inputs were not available for computing the GPCI, proxies were used. The price proxies for the opportunity cost of physician time and for nonphysician employee wage levels were constructed from the earnings of workers in specific occupations. Estimates of earnings were computed from the 20 percent sample of the 1980 Census of Population and Housing. Proxies for local prices of office space were the fair market apartment rental rates for 1987 reported by the U.S. Department of Housing and Urban Development (HUD). Local prices of professional liability insurance were estimated from data on premiums in 1985 and 1986.[8]

INDEX VALUES IN RURAL AREAS

Testimony during the Commission's hearing on rural practice costs reinforced concerns about the accuracy of the GPCI in rural areas. Much of the testimony suggested that input prices are similar in urban and rural areas. Yet the current GPCI values in rural areas are usually lower than the values in metropolitan areas in a state. This has led some critics to challenge the specific input price proxies used in the index.

---

[7] This requires an adjustment to the price proxy in each area, not to the cost share weight. The adjusted price proxy in an area is the national average relative value of physician time and effort adjusted by 25 percent of the difference between it and the unadjusted relative value of physician time and effort for the area.

[8] Data on malpractice premiums for representative specialties for a specified amount of coverage in 1985 and 1986 were collected by state with adjustments made for intra-state variation. OBRA89 specified that fee schedule payment for physician liability insurance is to be computed and geographically adjusted separately from the other components of overhead (Chapter 5). Eventually, a separate GPCI for liability insurance may be required.

One issue concerns the use of 1980 Census data for estimating labor input prices. Critics contend that relative wages of employees in rural areas are higher now than in 1980. They also have challenged the use of the HUD housing rental data as a proxy for the cost of physician office space in rural areas.[9]

Critics also question the assumption that medical supplies, equipment, and other inputs are purchased in national markets at nationally uniform prices. They argue that prices for some of these items are likely to be higher in rural areas. For example, maintenance contracts for medical equipment are more expensive because of the travel costs of technicians. And if local markets for automobiles, office supplies, equipment, and medical supplies are less competitive in rural areas, prices for these inputs could be higher.

Some of the geographic differences in practice costs would not be reflected in any input price index. For example, possible diseconomies of scale affecting rural practices would increase practice costs but would not be reflected in a price index like the GPCI. Rural practices must often support underutilized medical diagnostic equipment because there are no nearby alternative facilities for patient referral. In these cases, average fixed costs of practice would be higher in rural areas even though relative prices of inputs are not. Moreover, the medical needs in many rural areas can be met only by a physician in solo practice. Expert testimony before the Commission suggested that rural solo practices have higher costs than other types of practice. Higher costs attributed to scale diseconomies in rural areas should be reflected in the fee schedule.

Ensuring adequate access to physician services in rural areas might require still other geographic adjustments. Physician supply in some areas could be inadequate even after the fee schedule is adjusted for geographic differences in practice costs. This concern led to the Congress' decision to implement the incentive payment program in health manpower shortage areas. The Commission will need to evaluate the extent to which HMSAs identify those rural areas with access problems and whether the 10 percent incentive payment bonus is adequate.

---

[9] The use of residential housing cost data would cause the GPCI to understate rural practice costs only if the ratio of rural to national average housing costs is lower than the ratio of rural office space costs to the national average. Testimony by several experts on rural practice suggests that this might be the case.

WORK IN PROGRESS

The Commission is exploring two general research areas related to rural practice costs. One is the question of the reliability of the GPCI as a price index in rural areas. The other is the extent of geographic differences in practice costs associated with scale diseconomies and other issues that cannot be addressed by an input price index.

Price Index Issues

The issue of the reliability of the current GPCI as a price index suggests two questions that need to be answered:

- How accurate are the price proxies underlying the GPCI, and how sensitive is the index to possible inaccuracies?

- How valid is the assumption of uniform cost-share weights in rural and urban areas, and how sensitive is the index to plausible changes in the weights?

Accuracy Of Price Proxies. The Commission is constructing a GPCI from alternative input price data and, where feasible, will compare the new construct with the existing index.[10] One promising alternative data source is a 1988 national survey of registered nurses' wages.[11] Because they are relatively recent, these data should reflect any increases in nurses' wages in rural areas caused by shortages in that labor market. The survey data are being edited and will be used to validate the nonphysician employee wage proxies based on 1980 Census data that underlie the current GPCI.

Another alternative data source is a national file of health facility construction costs developed and maintained by the Center for Health Economics Research. Construction and land costs combined, rather than fair market housing rents, might be a better measure of office space costs in rural areas. In many rural areas, there might be no office space suitable for a medical practice. In these areas, construction or renovation are the alternatives more commonly available to physicians. The Commission is evaluating the feasibility of using the alternative measure to validate the proxy for office space costs in the current GPCI. If this or other alternatives suggest a bias against rural areas in the current proxies, the Commission could propose an adjustment.

---

[10] An alternative to replacing price proxies is to restrict the range of values for the current proxies; for example, placing a floor under input prices in rural areas. A GPCI based on the restricted price proxies would be contrasted with the current index.

[11] The data are from the Fourth National Sample Survey of Registered Nurses, March 1988, and were provided by the Division of Nursing, Bureau of Health Professions, Health Resources and Services Administration. The survey of 33,000 registered nurses included questions on wages and hours worked, among others.

Cost Shares in Rural Areas. The current GPCI was based on cost-share weights for urban and rural areas combined. However, since many more physicians practice in urban areas, the combined shares are close in value to urban shares. Significant differences between urban and rural cost shares could make the applicability of the GPCI in some locations questionable.

Cost shares for the current GPCI were based on 1987 practice revenue data from the American Medical Association (AMA) Socioeconomic Monitoring System (SMS). In conjunction with the AMA Center for Health Policy Research, the Commission undertook a preliminary evaluation of the assumption of geographically uniform cost shares. That analysis, based on 1988 SMS data, found some small differences in cost shares in urban and rural areas. Net income and office rents accounted for somewhat smaller proportions of total practice revenues in rural areas than in urban areas. Nonphysician employee costs accounted for a greater fraction in rural areas. The next step involves recalculating the GPCI using weights more appropriate to rural practice to determine the sensitivity of the index to cost-share differences in urban and rural areas.

Practice Costs Not Captured by an Input Price Index

The second issue concerns geographic variation in practice costs for reasons other than variation in input prices. The Commission is currently investigating urban and rural differences in average practice cost and scale of practice using its own 1988 survey of physicians. This survey collected data on practice hours and patient contacts for specific office, hospital, outpatient, and other services. It also collected information on expenses for staff, office space, equipment, and other overhead items, as well as on the availability, use, and costs of diagnostic equipment.[12]

Using these data, the Commission will investigate urban and rural differences in several measures of average cost per practice. Among these are staff and equipment expenses per service, the rate of use of particular types of diagnostic equipment, and average maintenance costs. A finding of significant urban and rural differences in these measures might suggest a need to adjust the Medicare Fee Schedule to compensate for them.

---

[12] The survey was fielded in 1988. It collected information on practice work schedules during a full work week in that year and data on practice costs during calendar year 1987. The file is being edited for use in this analysis. After preliminary screening on specialty and location, the file contains data from 2,287 respondents including 417 practicing in nonmetropolitan counties of 50,000 or fewer population.

In addition to these particular studies, the Commission will continue collecting empirical and anecdotal information on rural practice costs and access. In the past, it has drawn on the expertise of rural physicians and interest groups to help it identify the special problems and costs associated with rural practice. Where possible, the Commission will validate the anecdotal and case-specific information from these sources using data from its own survey of physicians, SMS data, and other sources as feasible. If necessary, new studies will be designed and undertaken to answer critical questions raised.

REFERENCES

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1987*, Washington, D.C., 1987.

U.S. Congress, Senate, Committee on Appropriations, "Department of Labor, Health and Human Services, and Education and Related Agencies Appropriation Bill, 1990," *Senate Report* pp. 101-127, Washington, D.C., September 1989a.

U.S. Congress, Office of Technology Assessment, *Defining Rural Areas: Impact on Health Care Policy and Research,* unpublished report, Washington, DC: U.S. Government Printing Office, July 1989b.

Welch, W. P., S. Zuckerman, and G. Pope, *The Geographic Medicare Economic Index: Alternative Approaches*, working paper 3839-01-01, Washington, DC: The Urban Institute, June 1989.

CHAPTER 8

ANESTHESIA, RADIOLOGY, AND PATHOLOGY IN THE MEDICARE FEE SCHEDULE

In the Omnibus Budget Reconciliation Act of 1989 (OBRA89), Congress directed the Secretary of Health and Human Services (HHS) to develop a fee schedule for physician services based on resource costs. OBRA89 also directed the Secretary to incorporate existing relative value scales (RVS) for anesthesiology and radiology into the Medicare Fee Schedule when it is implemented in 1992, and to develop a separate relative value scale for pathology to be implemented January 1, 1991. It is not clear whether these pathology relative values would be incorporated into the 1992 fee schedule.

The relative values for most physician services in the new Medicare Fee Schedule will be based on the work of Hsiao and his colleagues, the Health Care Financing Administration (HCFA), and the Commission (Chapter 2). The Commission recognizes that there are alternative sources of resource-based relative values for some specialties. However, alternative relative values should be incorporated into the Medicare Fee Schedule only if they can be shown to be consistent with resource costs.[1]

RECOMMENDATIONS

The Medicare Fee Schedule, to be implemented January 1, 1992, should be based on resource costs for all physician services, including those of anesthesiology, radiology, and pathology.

The relative values for anesthesia services in the Uniform Relative Value Guide (URVG) are consistent with resource costs and are appropriate for use in the Medicare Fee Schedule.

---

[1] For example, a resource-based process would be designed to set relative values according to the amount of physician time and effort and the practice costs required to produce each service. The only resource-based relative values now available for comparison are those from phase I of the Hsiao study. Revised values based on further work by Hsiao and his colleagues, and the Commission will be available in 1991.

The Radiology Fee Schedule relative values should be revised before they are integrated into the Medicare Fee Schedule. The Commission will revise these relative values through its refinement process.

The requirement in OBRA89 for the Secretary to develop and implement a fee schedule for pathology services should be reconsidered by Congress. Rather than implementing a fee schedule for pathology on January 1, 1991, the Commission recommends that pathology services be paid on the basis of resource-based relative values now being developed for all physician services, to be implemented beginning January 1, 1992.

This chapter describes the Commission's evaluation of specific relative value scales for anesthesia and radiology services. It presents a plan to revise relative values from the Radiology Fee Schedule to make them consistent with resource costs. It also describes how the relative value scales for anesthesia and radiology can be linked into the Medicare Fee Schedule. The chapter explains why it would be difficult to develop satisfactory resource-based relative values for anatomic pathology services in time to implement a pathology fee schedule on January 1, 1991. It also introduces two other issues in the payment for pathology services: payment for clinical laboratory services, and for supervisory pathology services and the autopsy.

ANESTHESIA SERVICES

OBRA89 directs the Secretary of Health and Human Services to incorporate the relative values from the Uniform Relative Value Guide (URVG) for payment of anesthesia services under the Medicare Fee Schedule.[2] Actual payment for an anesthesia service would be determined by multiplying the URVG base and actual time units by a conversion factor and adding a practice expense component to it. The conversion factor for anesthesia units and the practice expense component would be adjusted for geographic cost differences.[3]

---

[2] Anesthesia services are mainly provided by anesthesiologists and Certified Registered Nurse Anesthetists (CRNAs). In 1987, 95 percent of Medicare Part B payments for anesthesia were paid to anesthesiologists. However, at that time Part A paid for about 65 percent of CRNAs' services, and Part B paid physicians for services provided by CRNAs in their employ. Until 1989 CRNAs did not directly bill Medicare for anesthesia services. From January 1989 until December 31, 1989, a preliminary estimate (based on bills received by December 31) indicates that anesthesiologists were paid directly for 82 percent of anesthesia Part B allowed amounts, while nurse anesthetists were paid directly for 10 percent. The payment records, however, underestimate the number of services rendered by CRNAs.

[3] The American Society of Anesthesiology and the American Association of Nurse Anesthetists support the use of the Uniform Relative Value Guide relative values in the fee schedule.

The Commission's examination of the processes used to develop and refine the URVG, as well as the similarity of the URVG to those anesthesia work values developed by Hsiao and his colleagues, indicates that the URVG is resource-based.

RECOMMENDATION

The relative values for anesthesia services in the Uniform Relative Value Guide are consistent with resource costs and are appropriate for use in the Medicare Fee Schedule.

The Commission's work on anesthesia services will include developing methods to link the URVG with the rest of the Medicare Fee Schedule.[4] The anesthesia relative values are to be incorporated so that payments for anesthesia services are consistent with those of comparable services. During the next year, the Commission will examine the implications of the Medicare Fee Schedule and Volume Performance Standards (VPS) for Certified Registered Nurse Anesthetists (CRNAs) as well as for some other nonphysician providers.[5]

Payment for Anesthesia Services

Before March 1989 carriers paid for anesthesia services on the basis of relative values that were published in several different Relative Value Guides (RVGs). Under the RVGs the relative value of a specific service was the total of the base units for a procedure, which signified the complexity of the procedure, and time units, which represented the amount of time used for the delivery of the specific service. About two-thirds of the carriers also used units that reflected the physical status of the individual patient. The total units were multiplied by a carrier-specific conversion factor to determine the payment. Three carriers used the anesthesia codes from the Current Procedure Terminology (CPT) manual for billing, while the rest used surgery codes with anesthesia modifiers.

The Omnibus Budget Reconciliation Act of 1987 (OBRA87) directed HCFA to adopt a single Relative Value Guide for all anesthesia services provided after March 1, 1989. HCFA required the carriers to use the 1988 edition of the American Society of Anesthesiologists' (ASA) *Relative Value Guide* as the URVG and CPT anesthesia codes. HCFA also directed the carriers to discontinue using modifiers for the physical status of the individual patient in calculating the payment.[6] HCFA uses the URVG with different conversion factors to pay both anesthesiologists and CRNAs for anesthesia services.

---

[4] The Secretary of HHS is to consult with the Commission on incorporating the URVG into the Medicare Fee Schedule.

[5] OBRA89 requires the Commission to report to Congress on the appropriate level of payment under the Medicare Fee Schedule and the application of VPS to all nonphysician providers whose services can be billed directly to Medicare by July 1991.

OBRA89 requires the use of actual time to determine time units. Time units represent the period that begins when the anesthesiologist or CRNA prepares the patient for induction of anesthesia and ends when the provider is no longer in attendance. Previously, when the anesthesiologist furnished the entire service, one time unit was allowed for every 15-minute period or fraction thereof. The HHS Office of the Inspector General (1989b) criticized the policy of rounding-up fractional time units. The Commission supported the use of actual time as part of its budget advice to Congress in 1989.[7]

The Omnibus Budget Reconciliation Act of 1986 (OBRA86), OBRA87, and the Medicare Catastrophic Coverage Act of 1988 provided for direct reimbursement of anesthesia services furnished by CRNAs after January 1, 1989, under a fee schedule based on the URVG with mandatory assignment. The Family Support Act of 1988 allowed services furnished by CRNAs in certain rural hospitals to be reimbursed on a reasonable cost basis under Medicare Part A.

Resource Basis of the URVG Relative Values

The URVG relative values originated from the anesthesiology relative values that were developed for use in the *California Relative Value Studies,*[8] but the basis of the anesthesiology relative values was different from those for the rest of the scale. For services other than anesthesia, the California Medical Society surveyed physicians' actual charges and used the survey results to develop the relative values. Since anesthesiology was a new specialty with a variety of payment methodologies, there was no way to develop a relative value scale based on charges. In 1953, California anesthesiologists developed a formula for determining relative values for cholecystectomies that incorporated the anesthetic risk, the surgical problem, and the skill required of the anesthesiologist (Failing,

---

[6] The purpose of the physical status modifier was to assess the severity of the patient's condition for payment purposes. HCFA eliminated the modifier units because they were subjective and difficult to validate in the claims review process. Nevertheless, the use of valid severity modifiers may be appropriate for the payment for certain services under the fee schedule.

[7] The ASA also supported this provision.

[8] In the early 1950s, the Committee on Fees of the California Medical Association began its study to (1) develop uniform nomenclature for medical services, (2) standardize the coding of medical services, (3) provide relative values for medical services, and (4) place procedures in the correct sections of the fee schedule. In 1956 the committee reported its first version of the study and revised it in 1957, 1960, 1964, 1969, and 1974. The Federal Trade Commission restrained the California Medical Association from publishing the study after 1979.

1957).[9] While the study that determined the anesthesiology relative values based on this methodology was not completed for the first version of the *California Relative Value Studies*, its results were incorporated in later editions. The third edition (1960) described the methodology for anesthesia services as including a "'base' value to reflect skill, risk...[and] a value for the actual time involved in administering the anesthesia" (California Medical Association, 1974). In 1962 the American Society of Anesthesiology's House of Delegates adopted its first *Relative Value Guide* derived from the *California Relative Value Studies*. The relative values were (and continue to be) based on the complexity, risk, knowledge, and skill associated with each procedure, along with the time involved.

The method used to revise *Relative Value Guide* relative values reflects resource costs. The review panel that considers revisions examines the resources involved, including the skill, risk, medical knowledge, position of the patient, the physiologic insult of the anesthetic, and hemodynamic derangement. For example, in 1989 the ASA reduced the relative values for total hip arthroplasty because the operation is now more routinely performed and easier to do than in the past. There has also been a change in the technique--decreased use of methyl methacrylate cement--which reduces the potential for anesthetic complications.[10]

The Uniform Relative Value Guide relative values are similar to those from the Hsiao study. The Commission compared total work values for 19 vignettes to the total relative value units (base plus time units[11]) that would be assigned from the URVG for those procedures (Table 8-1).[12] In general, as total work values increase, URVG values increase. The rank ordering of values from each scale is very similar. Although URVG values are slightly lower than total work values, the relationship is maintained across the entire range of values.

---

[9] Anesthesia risk factors included the patient's physical status and the degree of hazard imposed by (1) the depth of anesthesia required, (2) type of anesthesia and technique, and (3) potential complications incident to anesthesia. The surgical problem included the magnitude of the surgical procedure and the degree of hazard imposed by (1) site of operative field, (2) position of the patient, and (3) potential complications incident to anesthesia. Technical skill included that needed to maintain respiratory physiology and normal circulatory physiology, and skills required for specialized techniques and procedures (Failing, 1957).

[10] At the same time, the ASA recommended a new procedure code for the operation to revise a previously performed total hip arthroplasty because the revision is more difficult than the original operation.

[11] For this comparison, time units are based on actual time.

[12] The values were highly correlated ($R^2 = .98$), and the elasticity (.91) indicates that the relationship between the two scales is relatively constant from simpler to more complex procedures. An elasticity of greater than one would indicate that the URVG relative values increase more than proportionally as work increases; an elasticity of less than one indicates the converse. The computed elasticity close to one implies a nearly proportional relationship. This methodology is similar to that was used to examine compression of diagnosis-related group (DRG) values (Lave, 1985; Thorpe, 1987).

Table 8-1. Comparison of Anesthesia Relative Values

Procedure Code	Uniform Relative Value Guide	Hsiao Study Relative Values
00142	1.90	2.40
00210	5.70	6.88
00350	4.00	4.97
00404	2.79	3.09
00562	7.94	8.66
00770	6.60	8.25
00790	2.89	3.07
00806	1.69	1.91
00830	1.77	1.90
00840	3.35	4.28
00850	2.64	3.44
00910	1.05	1.10
00914	2.23	2.70
00940	1.00	1.00
01210	2.92	3.85
01214	4.70	5.08
01270	4.43	5.25
01382	1.74	2.06
01710	1.50	1.85

Source: Uniform Relative Value Guide values are from the ASA, 1988; time and total work values are from Hsiao et al., 1988.

Note: The relative value for 00940 is set to 1.00 for each scale to facilitate comparison.

Work Plan for Anesthesia

OBRA89 requires modifying URVG relative values where necessary so that they are consistent with services of comparable value. The Secretary of HHS is to consult with the Commission and organizations representing providers who furnish anesthesia services on incorporating anesthesia into the Medicare Fee Schedule in 1992.

The Commission will analyze alternative methods to link the URVG with the rest of the fee schedule so that anesthesia payments are consistent with those of comparable services. One option is to develop a new conversion factor for anesthesia by using the 19 anesthesia codes from the Hsiao study. From actual claims data,[13] the new anesthesia conversion factor could be calculated as follows:

$$CF_a = CF_g * [(\sum WORK)/ (\sum RVGU+\sum TU)]$$

where CF_a is the conversion factor for anesthesia
CF_g is the conversion factor for other services
WORK is the total work values
RVGU is the anesthesia relative value units
TU is the time units

This formula translates the general conversion factor into an anesthesia conversion factor by multiplying it by the ratio of total resource-based values to total base and time units. This option incorporates all the anesthesia information provided by the Hsiao study.

A second option for linking is to compare anesthesia services to those of other specialties, using the five links that the Hsiao study identified.[14] Then, the conversion factor for anesthesia would be calculated as follows:

$$CF_a = [(\sum PAYMENT_c/5)/(\sum RVGU_c+\sum TU_c)]$$

where CF_a is the anesthesia conversion factor
$PAYMENT_c$ is the average fee schedule payment for comparable services
$RVGU_c$ is the average base units for comparable services
TU_c is the average time units for comparable services

Under this option, one calculates dollars for the comparable services per base and time units. While this methodology uses less information, it focuses on the services specifically judged to be similar or equivalent by the Hsiao study.

The Commission will also explore the implications of the Medicare Fee Schedule and Volume Performance Standards for CRNAs. CRNAs provide a significant portion of anesthesia services. Teams of anesthesiologists and CRNAs provide care in about half of the anesthesia cases. Anesthesiologists alone provide care in about one-third of the cases, and CRNAs alone provide care in about one-fifth of the cases (Rosenbach and Cromwell,1988). Under OBRA89 the Commission is required to report to Congress by July 1, 1991, on the appropriate payment level and the application of Volume Performance Standards to nonphysician providers whose services can be billed to Medicare.

---

[13] Although this analysis could be done with claims data from any year, it would be more easily done with claims submitted after March 1989 because claims were submitted using the URVG and anesthesia CPT codes at that time.

[14] The appropriateness of the cross-specialty links between anesthesiology and other specialties that were developed by Hsiao and his team will be examined in the Commission's refinement process, which is described in Chapter 3. If the links were changed in the refinement process, the new links would be used.

RADIOLOGY

To pay for radiology services under the Medicare Fee Schedule, OBRA89 directs the Secretary of HHS to use the Radiology Fee Schedule relative values, adjusting the values so that they are similar to other comparable physician services. Since the relative values for other services in the Medicare Fee Schedule are based on resource costs, this should include an adjustment in the radiology relative values to bring them closer to a resource cost basis and a method to link them into the full Medicare Fee Schedule.

The Commission will examine the relative values of radiology services to determine how well they now reflect resource costs. The Radiology Fee Schedule relative values may need substantial revision to make them consistent with resource costs. The quality of the data used to develop them and the methods used to establish the values appear to be below the standards set for the development of the Medicare Fee Schedule (PPRC, 1989). The Commission will refine the radiology relative values through a process similar to that to be used for the rest of the Medicare Fee Schedule. It will, however, draw on the relative values from the Radiology Fee Schedule as well as the Hsiao study and will require more judgment by physician panelists than will comparable efforts to refine values for other services.

RECOMMENDATION

The Radiology Fee Schedule relative values should be revised before they are integrated into the Medicare Fee Schedule. The Commission will revise these relative values through its refinement process.

The Commission will develop methods to link the refined relative values to the rest of the Medicare Fee Schedule so that payments for radiology services are consistent with those of comparable services.[15]

The Commission's work to estimate practice expenses will provide the information required to set payments for the technical component of radiology services. In addition, relative values for global radiology services can then be accurately calculated by adding service-specific practice expenses to the professional component relative values.

---

[15] The Secretary of HHS is to consult with the Commission on incorporating the Radiology Fee Schedule relative values into the Medicare Fee Schedule.

The Radiology Fee Schedule

Until 1989 radiology services, like all other physicians' services, were paid on the basis of the customary, prevailing, and reasonable charge methodology (CPR). OBRA87 required HCFA to develop and implement a fee schedule to pay for radiologists' services. This fee schedule was to apply only to physicians who were board-certified by the American Board of Radiology, who were board-eligible, or for whom radiology services accounted for at least 50 percent of their Medicare billings. In the development of the Radiology Fee Schedule, HCFA was required to consult with the Commission, The American College of Radiology (ACR), and other organizations whose members furnish radiology services. Total payments for the services of radiologists under this fee schedule in 1989 were to be 3 percent less than they would have been under CPR. The Radiology Fee Schedule was to be supplanted upon the implementation of a fee schedule based on resource costs,[16] but OBRA89 abrogated that provision.

Separately, both HCFA and the ACR developed alternative relative value scales for radiology. HCFA, assisted by the Urban Institute, developed its relative value scale based on Medicare submitted charges of radiologists.

The American College of Radiology developed its experience-based relative value scale through a consensus process that was informed by two surveys. Between late 1987 and early 1988, the ACR surveyed about 3,000 radiology practices for charges submitted to private payers for approximately 850 procedure codes.[17] The ACR conducted a pilot magnitude estimation survey of radiologists attending the American Roentgen Ray Society (ARRS) meetings. These radiologists were asked to rank services as to mental effort and judgement, technical skill and physical effort, quality control and quality assurance effort, potential harm to the patient, and overall complexity.[18] The overall complexity measure is analogous to Hsiao's total work measure.

The results from these two surveys were used to create the ACR's proposed fee schedule. To create a relative value scale, the ACR formed a steering panel of 15 members and consensus panels with 4 to 10 members[19] each for general diagnostic radiology, ultrasound, radiation oncology, computerized axial tomography (CT) and magnetic resonance imaging (MR), nuclear medicine, angiography and interventional radiology.[20]

---

[16] Section 4049 of OBRA87 provides that the radiology fee schedule shall apply "until such time as the Secretary of Health and Human Services implements physician fee schedules based on the relative value scale developed under section 1845(e) of the Social Security Act."

[17] The survey asked for professional component charges, global charges, the number of services performed and the percentage of Medicare beneficiaries receiving the service for each procedure code.

[18] The ACR conducted two previous pilot surveys of selected Maryland and Virginia members. One was a magnitude estimation survey of 25 procedures. The second included paired comparisons of 10 procedures. Later, another magnitude estimation survey was sent to 2,000 physicians to evaluate 57 services as to mental effort and judgement, technical skill, quality control and quality assurance effort, potential harm to the patient and overall complexity. A survey of actual practice costs of 900 radiology group practices and free-standing oncology group practices was also conducted. None of these surveys was used to develop the fee schedule.

The panels examined the relative values of services for families of codes. The development of these families represented a systematic division of radiology into related services. Each family included a primary code and was subdivided into numerous subfamilies denoted by secondary codes. Each subfamily, in turn, included a number of tertiary codes. The panels were presented with values for relative complexity and relative charges for primary codes. The panels resolved the differences in relative values of the primary codes on the basis of their professional experience.

The panels then determined the values of the remaining codes for each family in a process that was analogous to Hsiao's extrapolation of total work values for nonsurveyed codes from surveyed codes. Using spreadsheet analysis, the implications of changes in primary codes were shown on the relative charges for secondary codes. The panels next examined relative charges for the secondary codes, changing the values when they appeared to be inappropriate. After secondary codes were changed, the implications for the relative charges for the tertiary codes were shown. Finally, the panels changed relative values for tertiary codes that they judged inappropriate. To discourage gaming, the panels were required to give written reasons for any changes from charges. The steering committee reviewed the panels' results and formed the final consensus relative value scale.

According to the ACR (1988), the final consensus values differed from their charge-based values, with diagnostic radiology decreasing by 2 percent on average, interventional radiology increasing by 7 percent, CT scans and MR services decreasing by 12 percent, ultrasound decreasing by 2 percent, nuclear medicine decreasing by 16 percent, and radiation therapy increasing by 7 percent.[21] HCFA reported major differences between the ACR's consensus relative values and its charge-based values.[22] Nevertheless, HCFA adopted the ACR's consensus relative value scale for the Radiology Fee Schedule, which it implemented on April 1, 1989.

---

[19] Members of the panels were from the ACR, the American College of Nuclear Physicians, the Society of Nuclear Medicine, the American Osteopathic College of Radiology, and the Society of Cardiovascular and Interventional Radiology.

[20] A seventh panel to determine global charges and radiology practice costs included five radiologists and six radiology business managers.

[21] These are unweighted changes from submitted charges of private payers. Thus, the changes in Medicare-allowed charges based on these relative values may be different than those reported above.

[22] Ultrasound values were similar; HCFA's CT and MR values were higher; HCFA's angiography values were lower; HCFA's weekly treatment management values were lower; high-volume nuclear medicine values were similar; and one-third of the general radiology values were similar, with HCFA's higher in most other cases.

Although the ACR developed the relative value scale with participation by subspecialties, some radiological subspecialties had concerns about the Radiology Fee Schedule. The American College of Nuclear Physicians (ACNP) and the Society of Nuclear Medicine (SNM) opposed the adoption of a separate radiology fee schedule in OBRA87. While they participated in the development of the relative values, they claimed that biases in the ACR process led to undervaluation of nuclear medicine services.[23] The Society of Cardiovascular and Interventional Radiology argued for modification of interventional radiology codes before implementation of the Radiology Fee Schedule or exclusion from the Radiology Fee Schedule because those procedures were not accurately defined in CPT.

Congress responded to these objections through provisions in OBRA89. For physicians who receive 80 percent or more of their allowed charges from nuclear medicine services, payments in 1990 and 1991 will be blends of payments that would have been calculated under the Radiology Fee Schedule and the 1988 prevailing charges.[24]

The ACNP and the SNM believe that properly developed resource-based relative values are more equitable than the Radiology Fee Schedule relative values. In the second phase of the resource-based relative value study, the Hsiao team is surveying nuclear medicine, but it is unclear how this will affect payment for these services in 1992.

OBRA89 also responded to the concerns of the interventional radiologists. When interventional radiologists provide certain services, some use the complete radiology procedure codes, while others use multiple surgical codes to bill for the same service. To implement the Radiology Fee Schedule, HCFA had issued a proposed regulation to require the use of the complete procedure codes under the schedule. Because it is difficult to assign interventional radiology procedures to specific CPT codes, relative values for complete procedure codes may undervalue the service. OBRA89 allows the continuation of the previous billing practice.

Data Problems in the Radiology Fee Schedule. The quality of the data used to develop the Radiology Fee Schedule relative values may be questioned on a number of grounds. However, it is impossible to analyze fully the strengths and weakness of the data and methodology used to derive its relative values, because neither the Commission nor HCFA has had access to the raw data. Moreover, available descriptions of data development are incomplete.

---

[23] The ACNP and the SNM have asserted this on numerous occasions. For example, see ACNP and SNM, Statement before the Physician Payment Review Commission, January 17, 1990.

[24] In 1990 the payments are based one-third on the Radiology Fee Schedule payments and two-thirds on 101 percent of the 1988 prevailing charges. In 1991 the payments are based two-thirds on the Radiology Fee Schedule payments and one-third on 101 percent of the 1988 prevailing charges.

The ACR has not demonstrated that the data used to develop the Radiology Fee Schedule meet traditional research standards. The low response rates on the charge survey[25] and the ARRS magnitude survey[26] threaten the validity of the charge and complexity values. The potential for nonresponse bias is substantial. Furthermore, there were no tests of the reliability and validity of the complexity scores.

Although it is difficult to document, the ACR's consensus process may have compensated for some methodological limitations. The panels were asked to use their professional judgement and experience to determine the final consensus values. The Commission plans to examine the appropriateness of these consensus values in the refinement process discussed below.

Resource Basis of the Radiology Fee Schedule Relative Values. The Commission recommended, and the intent of OBRA89 was to establish, a fee schedule that would be resource-based. In judging whether the radiology relative values are resource-based, the process used to develop the values and the relative values themselves must be examined. While in some situations charges may be close to resource costs, in others they may deviate considerably. Since the ACR's development of relative values for secondary and tertiary codes is analogous to the extrapolations that Hsiao conducted, the analysis of the basis for the radiology relative values should focus on the primary codes.

The process used to develop the radiology relative values for the primary codes suggests that they are based on both charges and resources. This process appears to have favored charges with the requirement that justifications be provided when the panel departed from charges in setting relative values.[27] Although most written justifications for changes made by the consensus panels are terse (and some are omitted), changes appear to be justified on the basis of consistency and estimates of resources. Since the ACR did not provide the steering panel's justifications of changes, the Commission cannot determine the basis for those.

---

[25] The ACR mailed about 3,000 charge surveys, but more than 400 were duplicates or had bad addresses. The consensus panels were presented with usable data from 605 practices. At the time the panels used the results to develop the Radiology Fee Schedule, the response rate was 23 percent.

[26] The ACR sent letters requesting participation in the ARRS magnitude survey to 1,200 radiologists. Forty-six of those who had received letters and 105 others responded to the survey.

[27] "The panels were required to justify all changes made from the charge-based relative values" (ACR, 1988).

Analysis of the changes provides further evidence that the scale reflects both its sources. For the primary procedure codes,[28] 51 percent of the relative values were changed from charges by more than 10 percent. Nevertheless, the consensus relative values for 79 percent of the primary procedure codes are closer to the charge-based relative values than to the complexity-based relative values. Twenty-three percent of the consensus relative values are higher than both the charge and complexity relative values, while 9 percent are lower than both the charge and complexity relative values. The remaining 68 percent fall between the charge and the complexity relative values.[29]

Radiology Work Values from the Hsiao Study

In 1989 the Commission reviewed the methodology and results from phase I of the resource-based relative value study (PPRC, 1989). It concluded that the basic approach and methodology were sound: the sample size was sufficient; the editing of the data was reasonable; the method chosen for the estimation of missing data was acceptable; and the tests of validity and reliability were successfully completed. The response rate for radiology and the reliability of radiology responses are better than those of most other specialties.[30]

Two potential problems with Hsiao's work on radiology have been raised. First, while the survey was meant to obtain responses about professional work and time only, HCFA suggested that some radiologists may have responded on the basis of both professional and technical work and time (DHHS, 1989a). Although this may have occurred, the Commission knows of no empirical demonstration of it. If this problem existed, the results for radiology would be difficult to interpret because some respondents would have overvalued the work and time involved in a procedure, while others would have evaluated it correctly.

---

[28] This analysis includes 43 of the 46 primary procedure codes. Two codes outside the radiology range of codes and the base procedure, which is set to 1.00 on all scales, were not analyzed.

[29] Because complexity and charges are highly correlated, it is difficult to separate statistically the individual impact on the final scale. The elasticities are consistent with the mixed nature of the scale: a 1.00 percent change in relative charges produces a .79 percent change in consensus relative values; a 1.00 percent change in relative complexity values produces a .28 percent change in consensus relative values. While these estimates may be imprecise, they provide further evidence of the mixed nature of the scale.

[30] Radiologists had the highest response rate (Hsiao et al., 1988). With one test of reliability, radiology was one of four specialties with the highest score. With another test, radiology was ranked sixth highest out of 18 specialties (Hsiao et al., 1988).

Second, Hsiao and his team reported that the extrapolation of radiology work values was conducted incorrectly.[31] This is easy to correct, however, through a reextrapolation of the work values for these procedures.

Comparison of Hsiao and Radiology Fee Schedule Relative Values

Without judging which scale is valid, the Commission notes that the Radiology Fee Schedule relative values and the Hsiao work values differ and would produce different results when used in a fee schedule. Twenty-seven radiology services have both total work values from the Hsiao study and Radiology Fee Schedule relative values (Table 8-2). There are considerable variation between these two scales. The range of values in the Radiology Fee Schedule is greater than that of the Hsiao scale. At the low end of the Radiology Fee Schedule, procedure 73120 (radiologic examination, hand; two views) is valued one-half of its value on the Hsiao scale. At the top end, procedure 77763 (clinical brachytherapy; intracavitary radioelement application; complex) is valued nearly twice as much on the Radiology Fee Schedule as on the Hsiao scale.

A simulation provides another comparison of Radiology Fee Schedule relative values and the Hsiao total work values for professional component services by examining whether the scales would produce similar or different results. For families of radiology procedures, there would be greater changes with the total work values than with the Radiology Fee Schedule values, although the changes (with one exception) are in the same direction. The changes due to the Hsiao scale would be between 1.5 and 18 times those due to the Radiology Fee Schedule. Payments for about 28 percent of individual codes would move in opposite directions from Medicare-allowed charges, depending on whether they would be based on total work values or on the Radiology Fee Schedule relative values.

Radiology Work Plan

The relative values from the Radiology Fee Schedule should be revised before they are used in the Medicare Fee Schedule. The Commission will refine them using a process much like that described for other services in Chapter 3. However, the refinement process will draw on the relative values from the Radiology Fee Schedule and the relative work values from the Hsiao study. To prepare for this process, the Commission will analyze additional data.

---

[31] The Hsiao methodology used average submitted charges to extrapolate work values for nonsurveyed procedures. For radiology services, this methodology is complicated by differential payments for global and professional services. Hsiao and his colleagues did not correctly calculate average submitted charges for these different types of radiology services because the claims records from some carriers did not distinguish the types by the use of modifiers.

Table 8-2. Comparison of Radiology Relative Values (Professional Component)

Procedure Code	Radiology Fee Schedule	Hsiao Study Relative Values
70260	.24	.33
70330	.50	.77
70355	.15	.27
71020	.16	.25
71111	.23	.35
72110	.22	.37
73080	.13	.30
73110	.13	.43
73120	.11	.22
73510	.15	.29
73610	.13	.21
73630	.13	.31
74020	.20	.36
74160	.94	1.37
74247	1.15	.92
74280	1.58	1.38
74400	1.00	1.00
74741	1.26	1.39
76091	.30	.68
76361	5.90	3.08
76512	1.07	1.00
76516	.88	.72
76700	1.34	1.52
76805	1.52	1.71
77400	.82	.91
77763	7.39	4.32
78351	.18	.42

Source: Radiology Fee Schedule relative values are from the *Federal Register,* 1989; total work values are from Hsiao et al., 1988. Non-surveyed total work values have been reextrapolated.

Note: The relative value for 74400 is set to 1.00 for each scale to facilitate comparison.

After refining the radiology relative values, the Commission will analyze alternative methodologies to link radiology with the rest of the fee schedule. Potential methods include simulations, setting fees equivalent to those of comparable services, and adjusting the Radiology Fee Schedule relative values to make them consistent with those from the Hsiao study.

Refining the Relative Values for Radiology Services. To provide the refinement panel with the necessary information to judge the appropriateness of values for individual services and to refine the values, the Commission will reexamine the raw data from the Hsiao study. If the ACR is willing, the Commission will analyze the data from its complexity survey.[32] The Commission will analyze the alleged problems of these studies and, where possible, correct the problems with accepted methodological solutions. After this is completed, the radiology refinement panel will be presented with information from each of those sources for use in the refinement process.

Linking Services with the Fee Schedule. The Commission will examine alternative methodologies to link radiology with the rest of the fee schedule. Two potential methods are similar to those mentioned for anesthesia services. Using actual claims data, changes in allowed amounts would be simulated with the Hsiao total work values. Total allowed amounts in the budget for radiology services would be reduced or increased by the percentage change indicated by the simulation. The second method would be the comparable service approach. The fee schedule payment for each comparable nonradiology service would determine the payment for the radiology service.

A third approach is to adjust the Radiology Fee Schedule relative values. This method would calculate the ratio of the average total work values to Radiology Fee Schedule values for those procedures that are on both relative value scales. It would then multiply that ratio times the Radiology Fee Schedule value to determine the adjusted relative values for specific procedures. This is represented as follows:

$$ARV_{rfs} = \sum TW / \sum RV_{rfs}$$

where ARV_{rfs} is the adjusted radiology relative value
TW is the total work value
RV_{rfs} is the Radiology Fee Schedule relative values

The choice of methodologies should consider several factors. Since the simulation and weighted average methodologies use information from the Hsiao study, these methods cannot be used if it is determined that many respondents estimated work to include both that of the physician and the technician. The comparable services approach is not necessarily compromised by this problem. The methodology used must limit the possibilities of gaming and produce equitable payments for comparable services.

Radiology Practice Expenses. Although practice expenses for radiology services will be developed in a similar fashion to those for other services (Chapter 4), the Commission needs to complete some additional work for radiology. Physician practice costs for radiology services vary by the type of service (for example, chest X-ray and MR), and by component (that is, professional or technical). Because Medicare Part A reimburses the hospital for the technicians, equipment, supplies, and space, the practice costs borne by physicians when providing only the professional service in that setting is small. Typically, physician practice costs in the hospital include expenses for professional liability insurance and billing services. Thus, the payment for the professional component of a radiology service would be based mainly on the work of the physician plus minimal practice costs. When the radiologist provides services outside the hospital, the practice costs are much higher. They include salaries and fringe benefits of technicians, nurses, and office staff; equipment; supplies; and office space as well as professional liability insurance. Thus, the payment for global radiology services would be based on the work of the physician plus these practice costs.

---

[32] The ACR's main survey that uses magnitude estimation is a potential source of valuable information that may overcome the problems inherent in their pilot survey. If the methodological integrity of that survey can be demonstrated and the ACR will provide the raw data to the Commission, it could inform the refinement process.

To establish payments for global radiology services, the Commission will use several factors. The input costs of specific services will be estimated as described in Chapter 4. These global practice costs will be added to the payment for the professional component (minus its practice cost) to determine the payment for the global service.

The ACR's practice cost surveys of radiology practices and radiation oncology centers could provide extensive information on practice costs for radiology services. The surveys asked for general information on the practice, medical supply expenses, film cost, space allocation, personnel direct labor expenses, and administrative costs. Additionally, they asked the radiology practices for the costs of providing 117 procedures and the radiation oncology centers for the costs of providing 47 procedures. If the ACR were willing to give the raw data to the Commission (with appropriate protection for the privacy of the practices), it could provide a valuable addition to the Commission's study of practice costs.

PATHOLOGY

The resource-based Medicare Fee Schedule to be implemented January 1, 1992, will include services of all physician specialties.[33] Resource-based relative values for anatomic pathology services are being developed by Hsiao and colleagues, the Commission, and the Health Care Financing Administration through the same processes and methods being used for other physician services (Chapter 2).[34]

However, a provision of OBRA89 separate from the payment reform directs the Secretary of HHS to develop relative values and implement a fee schedule for pathology services on January 1, 1991. The Secretary is also to provide for geographic adjustment of this pathology fee schedule comparable to that for other physician services, and the implementation is to be budget neutral.[35] It is not clear whether the relative values from such a pathology fee schedule would be retained when the Medicare Fee Schedule is implemented in 1992.

---

[33] Of pathology services, only anatomic pathology (defined below) would be in the Medicare Fee Schedule.

[34] Hsiao reported relative work values for these services in the first phase of his study, but these relative values will be revised in phase II of the study. The Commission will develop practice expense and professional liability insurance expense factors for these services (Chapters 4 and 5).

RECOMMENDATION

The requirement in OBRA89 for the Secretary to develop and implement a fee schedule for pathology services should be reconsidered by Congress. Rather than implementing a fee schedule for pathology on January 1, 1991, the Commission recommends that pathology services be paid on the basis of resource-based relative values now being developed for all physician services, to be implemented beginning January 1, 1992.

It does not appear possible to develop satisfactory resource-based relative values for anatomic pathology services in time for implementation on January 1, 1991. The only viable method for developing pathology relative values that quickly is to base them on historical charges. But HCFA's recent experience demonstrates that even satisfactory charge-based relative values for these services will be difficult to develop, and that relative values based on historical pathology charges are quite different from resource-based relative values (DHHS, 1989d). It appears that the only source of sound resource-based relative values for these services are those being developed for use in the Medicare Fee Schedule, which is to be implemented for all physician services January 1, 1992.

This section explains why it would be difficult to develop satisfactory resource-based relative values for anatomic pathology services in time for implementation on January 1, 1991. Because pathology services differ in several ways from the services of most other physicians, the section begins by describing these services. Only anatomic pathology services would be paid through the Medicare Fee Schedule, so this section focuses on these services. The section concludes with a brief discussion of Medicare payment for clinical laboratory services and for supervisory pathology services and the autopsy.

Pathology Services and Procedures

Pathologists provide or supervise four kinds of services:[36]

---

[35] More precisely, OBRA89 directs the Secretary to design the fee schedule "so as to result in expenditures ... for services covered under the schedule in an amount that would not exceed the amount of such expenditures which would otherwise occur." A budget neutral implementation postpones the task of linking pathology relative values to other physician services.

[36] In each case, physicians other than pathologists can provide these services, but pathologists provide most of them.

- Anatomic pathology services are physician-intensive services that are personally provided by the pathologist and clearly identifiable with a particular patient, such as examination of a tissue specimen for suspected cancer.

- Clinical laboratory tests, such as determination of the level of thyroid hormone in a sample of blood, are performed by medical technologists under the supervision of a pathologist.

- Pathology supervisory services are provided by pathologists who are responsible for clinical management of pathology services in a hospital or independent laboratory.

- Autopsies are performed by pathologists to determine the cause of death, particularly when there is doubt about why or how the death occurred.

Since the type of payment under Medicare depends on the type of pathology service, HCFA and its carriers have evolved regulations that determine how each kind of service is to be paid under Medicare. However, many pathology services do not fall clearly into one category or the other. Moreover, Medicare's definitions and the rules used to apply them are complex and often confusing.[37]

Relative Values and Fees for Anatomic Pathology Services

Anatomic pathology services are most like those of other physicians. They cannot be performed without direct physician involvement, and they are clearly provided for the benefit of an individual patient. They include surgical pathology services (for example, examination of biopsied tissue), cytopathology services (such as examination of an abnormal PAP smear), certain hematology services (for example, examination of a bone marrow specimen), selected blood transfusion services, and clinical pathology consultations, which are similar to consultations by other physicians but are coded differently.

Anatomic pathology services are the only pathology services paid according to CPR, and only these codes will be included in the Medicare Fee Schedule. They are billed through

---

[37] Medicare's distinctions among pathology services derive largely from the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) and have a long history of complicated regulations to implement them. TEFRA required the Secretary of Health and Human Services to distinguish between "services rendered by physicians to an individual patient in a hospital or a skilled nursing facility which may be reimbursed as physicians' services under Part B on a reasonable charge basis, from those physician professional services which are rendered for the general benefit to patients in a provider and which may be reimbursed only on a reasonable cost basis." A discussion of the legislation and its application are in an unpublished draft report by the Secretary that was circulated for comment in 1989 (DHHS, 1989d, pp. 3-7).

57 different codes, with six surgical pathology codes (88300-88309) accounting for most anatomic pathology charges to Medicare.

There are two options for setting payments for anatomic pathology services after January 1, 1992. First, the relative values developed by the Secretary for the 1991 pathology fee schedule could be used, but rescaled to make them comparable to the rest of the resource-based Medicare Fee Schedule. Second, the 1991 pathology fee schedule could be entirely replaced using resource-based relative values and fee levels for pathology services determined through the same process that will be used for most physician services.[38] The two options differ primarily in the relative values that would be used.

If relative values must be developed within the time constraints required by implementation by January 1, 1991, it is likely that they will have to be based on historical charges. However, previous work demonstrates that it is difficult to develop a satisfactory charge-based relative value scale for anatomic pathology.

Pathology Relative Values Based on Charges

In OBRA87, Congress directed the Secretary of HHS to develop a proposal for a fee schedule for anatomic pathology services. HCFA, with consultation from pathology organizations, developed a relative value scale from historical charges (the 1989 RVS). A review of this work demonstrates how difficult it is to develop a satisfactory relative value scale from charges for these services, and that charge-based relative values will be quite different from Hsiao's initial estimates of resource-based relative values (DHHS, 1989d).[39]

Medicare separates an anatomic pathology service into two components for purposes of payment. This complicates the task of developing relative values for these services. Medicare pays for either a professional component or a global service that is the sum of the professional component and a technical component. The professional component is primarily to compensate for the physician's work, while the technical component is to cover the costs of preparing the specimen, record keeping, space, equipment, and so forth. This division of the global service into the two components is made because a pathologist always provides the professional component of the service, but the costs that the technical component is intended to cover may be incurred by a hospital or another entity.[40] An independent pathology laboratory separate from a hospital and owned by or employing a pathologist provides the professional service and incurs the costs of the technical component as well, so it should be paid the global fee for a pathology service.

---

[38] Though Hsiao and his colleagues reported resource-based relative values for anatomic pathology services from phase I of his study, these results should not be used in a fee schedule until they have been revised.

[39] The Commission examined the reported RVS and provided comments to HCFA indicating that it was neither based on nor consistent with resource costs, nor did it appear to be suitable for use in a resource-based Medicare Fee Schedule (Ginsburg, 1989).

[40] The technical costs for pathology services to inpatients that are borne by the hospital are considered to be covered by the DRG-based payments under the Prospective Payment System, and technical costs for services to hospital outpatients are covered through the hospital cost report.

HCFA intended to develop relative values for both professional and technical components for pathology services from 1987 data on charges. But historical charges for anatomic pathology services are likely to be distorted due to several factors. First, submitted charges and allowed charges for anatomic pathology services were artificially low for most pathology practices before 1983, apparently because they had been subsidized by rapidly growing revenue from the clinical laboratory. After implementation of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), allowed charges for anatomic pathology services were constrained to remain low by "compensation-related customary charges" imposed by HCFA through regulation.[41] Submitted charges also could not be increased to more realistic levels during 1983-1986 because of the physician fee freeze. Thereafter, they were constrained by the maximum allowable actual charge (MAAC) limits on actual charges. While 1988 charge data is now available to HCFA to construct a new charge-based RVS, the new data may still reflect these past distortions.

HCFA intended to use physicians' submitted charges to develop separate relative values for professional components, technical components, and global services, but was unable to determine with confidence which submitted charges represented each of these components.[42] Submitted charges of physicians based in hospitals were assumed to represent the professional component and submitted charges from independent laboratories and physicians' offices, the global service. However, the calculated average submitted charge for the global service was not consistently higher than that for the professional component, as one would expect.[43]

After considering the limitations of the data, HCFA decided to base its 1989 RVS on submitted charges for professional components only and not to use the submitted charges for global services. Consequently, it was not possible to make a reasonable estimate of the technical component or the global fee.[44] The result gives one little confidence that the calculated RVS accurately represents professional components and provides no basis for deciding how much to pay for a technical component or a global service.

---

[41] Under the compensation-related customary charge policy, new customary charges for anatomic pathology services were based on what physicians and hospitals had previously charged for these services. So the historically low charges for these services were translated into new low customary charges.

[42] Submitted charges were assumed to more accurately represent physicians' estimates of the relative value of services than allowed charges since the latter are limited by prevailing and customary charge screens.

[43] The professional component was actually higher than the calculated global fee for 41 of the 52 services examined. There are several reasons that might explain this finding (DHHS, 1989d). For example, technical components are thought to be a relatively small fraction of the total cost of providing some pathology services, and they also vary by setting of the service so that it may not be appropriate to compare average submitted charges for the global service in one setting to average submitted charges for the professional component in another setting. The finding may also reflect in part the restrictions on allowed and submitted charges for anatomic pathology services since 1983.

The 1989 RVS reported by the Secretary does not appear to reflect resource costs. HCFA compared the charge-based relative values to 19 preliminary resource-based relative values reported by Hsiao from the first phase of his study. The two scales were quite different, even within a family of related services (Table 8-3). The relative charges for the six surgical pathology codes 88300-88309, which account for most of the Medicare expenditures for anatomic pathology services, differ markedly from Hsiao's relative work values for these services (Table 8-3).[45]

OBRA89 directs the Secretary to provide for geographic adjustment of the pathology fee schedule. To be consistent with the rest of the fee schedule, geographic adjustments would be made differently for the practice cost component and the physician work component. But there are no reliable data available on practice costs for anatomic pathology services. The Commission will estimate practice costs for these services (Chapter 4) and allocate them to the professional and technical components. This work is complicated by the nature of pathology services, particularly in rural areas, and it will not be completed until late 1991.[46]

Implementation of any national pathology fee schedule in 1991 would substantially change the payments for pathology in many geographic areas, even after appropriate adjustments are made for differences in practice costs. Analysis of current charges by carrier area showed that the general level of pathology charges varies more than twofold among carrier areas (DHHS, 1989d). This is much greater than estimated differences in practice costs for physician services (PPRC, 1989). There may also be large geographic variations in relative prevailing charges for these services. This suggests that implementation of the Secretary's new fee schedule for pathology services will cause substantial changes in revenues for many practices. If a pathology fee schedule were to be implemented in 1991, it would be prudent to implement it gradually as is planned for most other physicians' services under OBRA89.

---

[44] Technical components can be estimated directly from data on practice costs, but there are no good data for pathology practice costs. The Commission is developing estimates for practice expenses for physician services including those of pathology (Chapter 4).

[45] The resource-based relative values in the table are from the first phase of the Hsiao study and are being revised by Hsiao through a restudy. Restudy may lead to significant changes in the intra-specialty relative values and reduce the differences from charges. However, several pathology organizations asked by HCFA to comment on the charge-based RVS stated that the charge-based relative values did not correspond to the relative resource costs of providing the services (DHHS, 1989d).

[46] The allocation of practice costs to different services and to the professional and technical components of these services must be considered separately for rural pathology services because the business arrangements between pathologists and rural hospitals are often different, there are different opportunities to take advantage of scale economies, and because transportation and communication costs may differ from those in urban areas. The College of American Pathologists has contracted with Abt Associates to design a study of pathology practice costs in different settings and in rural areas (College of American Pathologists, 1990).

Table 8-3. Comparison of Pathology Relative Values (Professional Component)

Procedure Code	Charge-based Relative Values	Hsiao Study Relative Values
80500	0.56	1.56
85100	2.26	8.08
85102	1.80	6.84
88104	0.63	3.04
88151	0.17	1.04
88300	0.34	0.28
88302	0.64	0.48
88304	1.00	1.00
88305	1.57	4.20
88307	2.06	5.12
88309	2.88	10.60
88331	1.68	5.96

Source: Charge-based relative values are from Sullivan, 1989; the Hsiao study relative values are calculated from the values of relative work in Hsiao et al., 1988.

Notes:

a) The relative value for 88304 is set to 1.00 for each scale to facilitate comparison.

b) The codes 80500, 88104, 88302-88309, and 88331 were surveyed in the Hsiao study, and the remaining codes extrapolated from surveyed codes (Hsiao et al., 1988).

Clinical Laboratory Services

Medicare does not pay for clinical laboratory tests as physician services under the current payment system, nor would they be included in the Medicare Fee Schedule or the

Secretary's pathology fee schedule.[47] Medicare does not consider clinical laboratory tests to be physician services, but rather services provided by nonphysicians under the supervision of a physician.[48] Many of these services are highly automated, and the supervising physician has little or no direct involvement with an individual test. Others are more like anatomic pathology services and some would argue for including them in the Medicare Fee Schedule.[49]

Inpatient clinical laboratory tests are not paid as individual tests, but are covered through Medicare's Prospective Payment System payments to the hospital. Similarly, clinical laboratory services to patients in skilled nursing facilities are paid through Part A. Clinical laboratory tests in a physician's office or an independent pathology laboratory are paid through Part B under Medicare's Clinical Laboratory Fee Schedule, which is based on historical charges (DHHS, 1989c). The Commission is concerned that the Clinical Laboratory Fee Schedule may not be the most appropriate basis for the payment for some of these services.

Supervisory Pathology Services and the Autopsy

Supervisory pathology services require a physician's knowledge and skills, but are considered to benefit the hospital and all its patients rather than each individual patient. These services require clinical management and supervision, including quality assurance and determination of the institution's clinical service needs. For example, the supervising pathologist should determine which pathology tests should be available for use by other physicians, on what terms they should be available, and by which methods each test should be performed.

These services are not paid fee-for-service like most physician services. Under Medicare's Prospective Payment System, the per-case payments to the hospital under Part A include payment for these services. Hospitals are to pay pathologists under contract to provide supervision of inpatient anatomic pathology and clinical laboratory services. Similarly, the costs of these services for hospital outpatients are to be covered through the hospital's cost report. In either case, a pathologist providing these services must negotiate payment for these services with the hospital.

---

[47] There are over one thousand different clinical laboratory services paid under the Clinical Laboratory Fee Schedule. These services were paid as physician services under CPR until 1984, when the Deficit Reduction Act of 1984 (DEFRA) first established regional fee schedules for clinical laboratory services. A concise history of payment for these services is provided in the report of the Office of Inspector General (DHHS, 1989c).

[48] However, the supervising physician does provide clinical management and oversight of these services; these services are included in "supervisory pathology services," the third category.

[49] For example, pathologists often provide case-by-case interpretations of the results of some of these tests, and many pathologists assert that these interpretations should be paid fee-for-service like anatomic pathology services and other physician services.

Medicare does not make a direct payment to the pathologist for autopsies, although autopsies are clearly identifiable with a particular Medicare beneficiary. Medicare argues that the autopsy contributes to the quality of care in the hospital and so benefits the hospital and all its patients. In addition, HCFA does not consider an autopsy to be a service to a particular beneficiary because the individual is no longer living. As for pathology supervisory services, the per-case payment under the Prospective Payment System is intended to cover autopsies and the hospital is expected to pay pathologists under contract for these services.

Autopsies are considered to be an important part of quality assurance for a hospital (Lundberg, 1988; Anderson et al., 1989), and clinical supervision of pathology services is also important for the quality of care in the institution. Though clinical supervisory services and autopsies for inpatients are covered services under Part A, it is not clear whether physicians who provide them are usually paid for these services. The Commission is concerned that this mode of payment may discourage the provision of these services.

REFERENCES

American College of Nuclear Physicians and the Society of Nuclear Medicine, Statement before the Physician Payment Review Commission, Washington, D.C., January 17, 1990.

American College of Radiology, *The Radiology Relative Value Scale and Fee Schedules Being Developed by The Health Care Financing Administration Under Section 4049 of the Omnibus Reconciliation Act of 1987: A Proposal from the American College of Radiology*, Reston, VA: ACR, 1988.

American Society of Anesthesiologists, *Relative Value Guide 1988*, n.p., ASA, 1988.

Anderson, R.E., R.B. Hill, and C.R. Key, "The Sensitivity and Specificity of Clinical Diagnostics During Five Decades," *Journal of the American Medical Association* 261(11):1610-1617, March 17, 1989.

California Medical Association, *California Relative Value Studies*, San Francisco, 1975.

College of American Pathologists, Statement before the Physician Payment Review Commission, Washington, D.C., January 17, 1990.

Failing, J.H., "Anesthesia Fees," *Anesthesiology* 18(2):344-348, 1957.

Federal Register 42 CFR, Part 405, 54(40):8994-9024, March 2, 1989.

Ginsburg, P.B., Executive Director of the Physician Payment Review Commission, Letter to K.A. Buto, of the Health Care Financing Administration, June 30, 1989.

Hsiao, W.C., P. Braun, E.R. Becker, et al., *A National Study of Resource-Based Relative Value Scales for Physician Services: Final Report*, Harvard School of Public Health, September, 1988.

Lave, J.R., "Is Compression Occurring in DRG Prices?" *Inquiry* 22(2):142-147, 1985.

Lundberg, G.D., "Now Is the Time to Emphasize the Autopsy in Quality Assurance," *Journal of the American Medical Association* 260(23):3488, December 16, 1988.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989.

Rosenbach, M.L. and J. Cromwell, "A Profile of Anesthesia Practice Patterns," *Health Affairs* 7(4): 118-131, 1988.

Thorpe, K.E., "The Distributional Implications of Using Relative Prices in DRG Payment Systems," *Inquiry* 24(1):85-95, 1987.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, *Reports to Congress: Medicare Physician Payment*, Washington, D.C., October 18, 1989a.

U.S. Department of Health and Human Services (DHHS), Office of Inspector General, *Medicare Part B Payments for Unexpended Efforts Relating to Anesthesia Services*, memorandum, Washington, D.C., April 27, 1989b.

U.S. Department of Health and Human Services (DHHS), Office of the Inspector General, *Medicare Reimbursement for Outpatient Laboratory Services*, Washington, D.C., March 1989c.

U.S. Department of Health and Human Services (DHHS), *Report to Congress: A Relative Value Scale for Physician Pathology Services*, unpublished report circulated for comment, Washington, D.C.: Department of Health and Human Services, 1989d.

CHAPTER 9

PAYMENT TO LIMITED LICENSE PRACTITIONERS

Under the Omnibus Budget Reconciliation Act of 1989, Medicare will pay for physicians' services under a fee schedule based on resource costs. This fee schedule will apply not only to doctors of medicine (MDs) and osteopathy (DOs) but to limited license practitioners (LLPs) defined as "physicians" under the Medicare statute, specifically, as:

- doctors of dental (oral) surgery or dental medicine,
- doctors of podiatric medicine,
- doctors of optometry, and
- chiropractors meeting certain educational and licensing standards.

Because Congress has resolved the issue of whether limited license practitioners should be incorporated into the fee schedule, this chapter reflects the Commission's thinking on how that should be accomplished. The chapter begins with a review of current Medicare policies affecting payment to LLPs. It then describes the practice characteristics and professional training for each of the four types of practitioners and analyzes Medicare charge data for their services. The chapter concludes with a discussion of the Commission's recommendations for payment of LLPs under the Medicare Fee Schedule. Although other concerns about Medicare policy related to LLPs, such as service coverage and competency to perform specific services, have been raised, this chapter focuses on payment.[1]

RECOMMENDATIONS

The principle stated in the Commission's 1989 report that physicians should be paid the same when the service is the same should apply to all practitioners defined as physicians under the Medicare statute.

---

[1] Other issues related to limited license practitioners, including Volume Performance Standards and practice guidelines, are discussed in Chapter 11.

Oral and maxillofacial surgeons should be paid under the Medicare Fee Schedule, using the same relative values and conversion factors as applied to doctors of medicine and osteopathy.

Because less is known about whether podiatrists and optometrists provide the same services as doctors of medicine and osteopathy when they bill under the same procedure codes, the Commission will conduct additional analyses this year to make recommendations on how to pay these practitioners under the Medicare Fee Schedule.

Because of difficulties in linking chiropractic services into the Medicare Fee Schedule, a separate budget neutral fee schedule that incorporates a geographic adjustor should be constructed for the single chiropractic service covered by Medicare.

CURRENT PAYMENT TO LIMITED LICENSE PRACTITIONERS

Currently, Medicare makes no distinction between LLPs and MDs in implementing payment. Both types of practitioners are paid on the basis of customary, prevailing, and reasonable (CPR) charges for covered services falling within state scope of practice laws.[2] The Participating Physician and Supplier Program (PAR) and maximum allowable actual charge (MAAC) limits apply to LLPs in the same manner as to MDs and DOs.

The discretion granted to carriers in setting Medicare prevailing charges by specialty extends to limited license practitioners. Most carriers, particularly those recognizing a wide range of MD specialties, develop separate prevailing charge profiles for limited license practitioners. Other carriers group oral surgeons with surgical specialties. Podiatrists and optometrists may be grouped with surgeons, general practitioners, or other nonspecialists.[3]

Limited license practitioners other than chiropractors use many of the same procedure codes as MDs and DOs. Although LLPs may account for a large percentage of allowed charges for certain codes, there is considerable overlap between their practice and that MDs and DOs. There are also special HCFA Common Procedure Coding System (HCPCS) codes for some LLP services not found in the Current Procedural Terminology (CPT4) manual (for example, chiropractic manipulation and routine foot care).

---

[2] Podiatrists, dentists, optometsts, and chiropractors are distinguished from other health professionals by inclusion in the definition of physician. Other providers, most notably nurse-midwives and psychologists, are not defined as physicians even though their services may be reimbursed when provided (in some cases) without physician supervision. Similarly, other limited license practitioners, such as audiologists and physical therapists, may sign participation agreements but are not considered physicians.

[3] Specialty differentials per se do not apply to chiropractors because they do not bill for the same services as MDs and DOs. There is considerable variation, however, in the specialty designations assigned to chiropractors. Some carriers group chiropractors with nonspecialists and general practitioners. Others, including many that do not use specialty differentials for payment to medical doctors, identify chiropractors separately.

PRACTICE CHARACTERISTICS, TRAINING, AND MEDICARE CHARGES

This section describes the practices and training of limited license practitioners and presents analyses of Medicare charges for their services, specifically:

- Medicare-covered services falling within their scopes of practice,
- the extent and nature of their professional training,
- services accounting for a substantial proportion of their Medicare charges,
- the distribution of charges between LLPs and other physician specialties for overlapping services, and
- a comparison of average allowed charges for overlapping services.

Podiatrists

Podiatrists are trained and licensed to deliver a wide range of services, including medical and surgical treatment of diseases of the skin and nails, corns, callouses, bunions, bursitis, and foot injuries affecting bones, tendons, muscles, and joints. They also prescribe and administer drugs, physical therapy, and corrective devices. In 1987, allowed charges for Medicare podiatry services totaled $433 million, or 1.8 percent of the total for Part B physicians' services.

Podiatrists receive four years of post-baccalaureate education.[4] The first two years are devoted to classroom instruction and laboratory sessions in basic sciences including anatomy, physiology, microbiology, biochemistry, pharmacology, and pathology. The third and fourth years are devoted to clinical training in diagnosis (history taking, physical examination, clinical lab procedures, and diagnostic radiology); therapeutics (physical medicine, orthotics, and prosthetics); surgery; and anesthesia. Most graduates pursue one- to two-year hospital-based residency programs.

There is considerable variation across states in podiatric practice. Some states, including Arizona, Georgia, Idaho, and Nevada, define podiatry to include the leg as well as the foot. Others, such as California, Ohio, and Pennsylvania, limit treatment beyond the foot to those muscles and tendons of the leg that govern the foot. In Hawaii, podiatrists may treat feet surgically but legs only medically.

Medicare payment to podiatrists is concentrated on three types of services: surgical procedures involving the foot, office visits, and diagnostic radiology (Table 9-1). These services are also commonly provided by orthopedic and general surgeons, general and family practitioners, internists, dermatologists, and radiologists (Table 9-2). For many of these services, podiatrists account for more than half of total allowed charges.

---

[4] Although a minimum of three years of college education is required prior to matriculation, 95 percent of entering podiatry students have earned a bachelor's degree.

Table 9-1. Procedure Codes Accounting for the Top 70 Percent of Allowed Charges for Podiatrists, 1987

HCPCS Code	Description	Percent of Allowed Charges
11750	Removal of Nail Bed	6.4
11710	Surgical Cleansing of Nails	4.5
90050	Office Visit, Limited	4.2
11700	Surgical Cleansing of Nails	4.0
T1060	Routine Foot Care	3.8
28285	Revision of Hammertoe	3.7
11730	Removal of Nail Plate	3.7
73620	X-Ray Exam of Foot	3.6
90060	Office Visit, Intermediate	3.4
10100	Drainage of Infected Nail	3.2
28292	Correction of Bunion	3.0
10060	Drainage of Skin Abscess	2.6
11000	Surgical Cleansing of Skin	2.6
11701	Surgical Cleansing of Nails	2.6
73630	X-Ray Exam of Foot	2.4
90040	Office Visit, Brief	2.4
90015	Office Visit, New, Intermediate	2.4
11711	Surgical Cleansing of Nails	2.1
20600	Drainage Joint/Bursa/Cyst	1.6
93910	Lower Limb Artery Study	1.6
28296	Correction of Bunion	1.3
90010	Office Visit, New, Limited	1.2
11040	Surgical Cleansing, Abrasion	1.0
28293	Correction of Bunion	0.9
28214	Partial Removal of Toe	0.9
28308	Incision of Metatarsa	10.9
28270	Release of Foot Contracture	0.8
28153	Partial Removal of Toe	0.8
10101	Drainage of Infected Nail(s)	0.7
20605	Drainage Joint/Bursa/Cyst	0.7
Total		**72.3**

Source: BMAD Provider File.

Table 9-2. Distribution of Allowed Charges for Services Provided by Podiatrists and Other Physicians, 1987

HCPCS Code	Description	Percent of Charges by Podiatrists	Specialty Accounting for Substantial Portion of Charges (Percent of Charges)
90060	Office Visit, Intermediate	1	Internal Medicine (38)
90050	Office Visit, Limited	2	Internal Medicine (34)
90040	Office Visit, Brief	4	Internal Medicine (25)
90010	Office Visit, New, Limited	10	Orthopedic Surgery (13)
90015	Office Visit, New, Intermediate	10	Internal Medicine (15)
93910	Lower Limb Artery Study	16	General Surgery (35)
20605	Drainage of Joint/Bursa/Cyst	28	Orthopedic Surgery (25)
73630	X-Ray Exam of Foot	42	Radiology (28)
11040	Surgical Cleansing/Abrasion	62	General Surgery (16)
20600	Drainage of Joint/Bursa/Cyst	63	Orthopedic Surgery (10)
11000	Surgical Cleansing of Skin	66	General Surgery (17)
73620	X-Ray Exam of Foot	72	Orthopedic Surgery (12)
28296	Correction of Bunion	69	Orthopedic Surgery (28)
10060	Drainage of Skin Abscess	74	General Surgery (7)
28292	Correction of Bunion	76	Orthopedic Surgery (28)
28293	Correction of Bunion	78	Orthopedic Surgery (20)
28285	Revision of Hammertoe	84	Orthopedic Surgery (14)
11750	Removal of Nail Bed	87	General Surgery (4)
28308	Incision of Metatarsal	89	Orthopedic Surgery (10)
28270	Release of Foot Contracture	93	
11730	Removal of Nail Plate	93	
10100	Drainage of Infected Nail	97	
28153	Partial Removal of Toe	97	
11700	Surgical Cleansing of Nails	97	
10101	Drainage of Infected Nail	97	
11710	Surgical Cleansing of Nails	99	
11701	Surgical Cleansing of Nails	99	
T1060	Routine Foot Care	99	
11711	Surgical Cleansing of Nails	99	

Source: BMAD Provider File.

Table 9-3. Average Allowed Charge By Specialty for Services Provided by Podiatrists, 1987

HCPCS Code	Description	Podiatry	Avg Charge All MDs	Ortho Surg	Gen Surg	Gen Pract	Family Pract	Int Med	Derm
10060	Drainage of Skin Abscess	$32	$33	--	$40	$29	$29	$33	--
11000	Surgical Cleansing of Skin	28	48	--	61	29	--	53	32
11040	Surgical Cleansing, Abrasion	28	33	--	38	26	24	35	31
11750	Removal of Nail Bed	149	89	--	89	--	--	--	--
20600	Drainage of Joint/Bursa/Cyst	40	26	26	--	--	21	26	--
20605	Drainage of Joint/Bursa/Cyst	36	28	28	--	27	26	29	--
28292	Correction of Bunion	508	486	486	--	--	--	--	--
28293	Correction of Bunion	593	549	549	--	--	--	--	--
28296	Correction of Bunion	617	587	587	--	--	--	--	--
28308	Incision of Metatarsal	295	301	301	--	--	--	--	--
90010	Office Visit, New, Limited	31	28	31	26	26	25	30	32
90015	Office Visit, New, Intermediate	30	34	37	31	30	30	38	36
90040	Office Visit, Brief	21	16	18	16	15	15	18	19
90050	Office Visit, Limited	22	20	22	20	18	18	22	22
90060	Office Visit, Intermediate	25	25	27	23	22	22	27	27
93910	Lower Limb Artery Study	134	86	--	75	--	144	99	--
Weighted Average, Above Services		**41**	**38**						

Source: BMAD Provider File.

Average allowed charges for these services vary across specialties (Table 9-3), although there is no consistent pattern. In some cases, podiatrists are paid considerably more than other physician specialties; in others, they are paid the same or less.

Oral and Maxillofacial Surgeons

While dental services are not covered by Medicare,[5] doctors of dental surgery or dental medicine may receive payment for other services. These include surgery related to the jaw or contiguous structures, reduction of jaw or facial bone fractures, dental examinations necessary to detect infections prior to surgery, treatment of oral infections, and interpretation of diagnostic X-rays in connection with other covered services.

---

[5] Medicare defines dental services as the care, treatment, removal, or replacement of teeth or structures directly supporting the teeth.

Dentists specializing in oral and maxillofacial surgery receive four years of residency training beyond the four-year post-baccalaureate D.D.S. degree. The curriculum includes instruction in basic sciences and physical diagnosis as well as rotations in anesthesia, surgery, and internal medicine.

Services provided by oral surgeons accounted for only $11 million, or 0.05 percent, of Part B allowed charges for physicians' services in 1987. While their services account for a substantial proportion of allowed charges for a small set of procedure codes (Table 9-4), this set of procedure codes does not account for a substantial proportion of charges by oral surgeons to Medicare beneficiaries. The top 90 percent of oral surgery allowed charges is distributed among 187 codes (Table 9-5).[6]

Table 9-4. Distribution of Allowed Charges by Specialty for Services Provided by Oral and Maxillofacial Surgeons, 1987

HCPCS Code	Description	Percent of Oral Surgeons	Specialty Accounting for Substantial Portion of Charges (Percent of Charges)
11100	Biopsy of Lesion	0.3	Dermatology (81)
11442	Removal of Skin Lesion	0.8	Dermatology (51)
15120	Skin Split Graft Procedure	2	Plastic Surgery (35)
41112	Excision of Tongue Lesion	24	Otolaryngology (49)
40814	Excise/Repair Mouth Lesion	45	Otolaryngology (29)
21499	Head Surgery Procedure	47	Otolaryngology (17)
40808	Biopsy of Mouth Lesion	48	Otolaryngology (35)
21210	Face Bone Graft	48	Plastic Surgery (25)
21462	Repair Lower Jaw Fracture	53	Otolaryngology (18)
40812	Excise/Repair Mouth Lesion	56	Otolaryngology (20)
21470	Repair Lower Jaw Bone Fracture	57	Otolaryngology (17)
21455	Repair Lower Jaw Fracture	60	Otolaryngology (18)
21200	Reconstruct Lower Jaw Bone	65	Otolaryngology (12)
40810	Excision of Mouth Lesion	68	Otolaryngology (16)
21041	Removal of Jaw Bone Lesion	69	Otolaryngology (12)
70355	Panoramic X-Ray of Jaw Joints	70	Radiology (20)
21215	Lower Jaw Bone Graft	71	Otolaryngology (12)
21030	Removal of Face Bone Lesion	75	General Surgery (4)
21242	Reconstruction of Jaw Joint	76	General Surgery (5)
21040	Removal of Jaw Bone Lesion	79	Otolaryngology (5)
41899	Gum Surgery Procedure	82	Otolaryngology (11)
21240	Reconstruction of Jaw Joint	83	General Surgery (5)
40845	Reconstruction of Mouth	84	General Surgery (8)

Source: BMAD Provider File.

---

[6] By contrast, 16 procedures account for 90 percent of allowed charges by optometrists (Table 9-7).

Table 9-5. Procedure Codes Accounting for Top 50 Percent of Allowed Charges for Oral and Maxillofacial Surgeons, 1987

HCPCS Code	Description	Percent of Allowed Charges
21240	Reconstruction of Jaw Joint	3.7
21470	Repair Lower Jaw Bone Fracture	3.5
21215	Lower Jaw Bone Graft	3.1
70355	Panoramic X-Ray of Jaws	2.8
21040	Removal of Jaw Bone Lesion	2.8
21030	Removal of Face Bone Lesion	2.5
90600	Limited Consultation	2.2
21041	Removal of Jaw Bone Lesion	2.1
90050	Office Visit, Limited	2.1
41899	Gum Surgery Procedure	1.8
21499	Head Surgery Procedure	1.8
21242	Reconstruction of Jaw Joint	1.5
40812	Excise/Repair Mouth Lesion	1.5
21455	Repair Lower Jaw Fracture	1.3
21200	Reconstruct Lower Jaw Bone	1.3
90015	Office Visit, New, Intermediate	1.2
40845	Reconstruction of Mouth	1.2
40810	Excision of Mouth Lesion	1.2
90020	Office Visit, New, Comprehensive	1.1
40808	Biopsy of Mouth Lesion	1.1
21462	Repair Lower Jaw Fracture	1.1
90620	Comprehensive Consultation	1.1
21210	Face Bone Graft	1.1
11100	Biopsy of Lesion	1.0
11442	Removal of Skin Lesion	1.0
90060	Office Visit Intermediate	0.9
90605	Intermediate Consultation	0.9
41112	Excision of Tongue Lesion	0.9
40814	Excise/Repair Mouth Lesion	0.9
90610	Extended Consultation	0.8
15120	Skin Split Graft Procedure	0.8
90010	Office Visit, New, Limited	0.8
Total		**50.1**

Source: BMAD Provider File.

Oral surgeons bill for many of the same codes as otolaryngologists, general and plastic surgeons, and in some cases, radiologists (Table 9-4). Some variation exists in average allowed charges across these specialties (Table 9-6). These figures should be viewed with caution, however, due to the small number of services provided by each specialty for a given procedure code.

Table 9-6. Average Allowed Charge by Specialty for Services Provided by Oral and Maxillofacial Surgeons, 1987

HCPCS Code	Description	Oral Surgery	Average Charge All MDs	Otolaryngology	Gen Surg	Plastic Surg	Derm
11100	Biopsy of Lesion	$49	$43	--	$42	--	$43
11442	Removal of Skin Lesion	97	80	98	89	110	72
15120	Skin Split Graft Procedure	466	477	433	415	545	630
40808	Biopsy of Mouth Lesion	52	47	47	52	--	--
40810	Excision of Mouth Lesion	99	72	68	83	--	--
40812	Excise/Repair Mouth Lesion	92	96	95	99	--	--
41112	Excision of Tongue Lesion	154	182	183	175	--	--
90010	Office Visit, New, Limited	21	30	31	26	28	32
90015	Office Visit, New, Intermediate	29	34	35	31	32	36
90020	Office Visit, New, Comprehensive	44	42	41	44	43	41
90050	Office Visit, Limited	20	20	21	19	21	22
90060	Office Visit, Intermediate	24	25	25	23	26	27
90600	Limited Consultation	34	42	42	42	35	43
90605	Intermediate Consultation	41	50	49	50	46	50
90610	Extended Consultation	49	61	58	62	54	58
90620	Comprehensive Consultation	64	80	75	82	76	76
Weighted Average, Above Services		41	44				

Source: BMAD Provider File.

Optometrists

Optometrists are trained to test visual acuity; to detect eye diseases and ocular manifestations of other systemic diseases; and to prescribe corrective lenses and therapy to preserve or restore visual performance. All 50 states now permit optometrists to use diagnostic drugs; 25 allow optometrists to use and prescribe therapeutic drugs.

The Doctor of Optometry is a four-year degree program that includes training in basic medical sciences, ocular science (anatomy, neuroanatomy, and neurophysiology of the visual system; ocular myology, pharmacology, and disease, including ocular manifestations of systemic disease), and optics (geometric, physical, physiological, and ophthalmic optics as well as visual performance and visual screening). Clinical training is provided in the latter two years in a variety of settings. Among these are private practices, hospitals, nursing homes, and clinics. Although a minimum of two years of college education is required prior to matriculation, most entering optometry students have earned a bachelor's degree.

Before 1981 Medicare payment to optometrists was limited to the fitting and provision of lenses for patients with aphakia (the absence of the natural crystalline lens of the eye regardless of whether an intraocular lens has been implanted). Effective July 1, 1981, however, optometrists were defined as physicians for a wide range of services related to aphakia.[7]

Effective April 1, 1987, this expansion was further broadened by permitting payment for all Medicare-covered vision care services that optometrists are authorized to provide under the applicable state law. In 1987, allowed charges for Medicare optometry services totaled $102 million, or 0.4 percent of the total for Part B physicians' services.

Routine eye examinations and refraction are not covered by Medicare regardless of whether these services are provided by an optometrist, ophthalmologist, or other physician. Eye examinations are covered only for patients with a complaint or symptom of eye disease or injury. When refractive services are provided, the physician may separate the charges. Otherwise the carrier will estimate the percentage of the inclusive charge attributable to refraction before determining the reasonable charge for the rest of the eye exam.

Charges by optometrists are concentrated among relatively few procedure codes; three eye exam codes (CPT codes 92014, 92012, and 92004) account for 60 percent of their allowed charges (Table 9-7). At the same time, optometrists account for only a small fraction of allowed charges for these and other procedure codes, with the exception of special spectacles fitting (CPT code 92353) (Table 9-8). Without exception, optometrists have lower average allowed charges than ophthalmologists for these services (Table 9-9).

---

[7] These include case history, external examination, ophthalmoscopy, biomicroscopy, tonometry, ocular motility, binocular function, and provision of ophthalmic prosthesis services.

Table 9-7. Procedure Codes Accounting for the Top 90 Percent of Allowed Charges to Optometrists, 1987

HCPCS Code	Description	Percent of Allowed Charges
92014	Eye Exam and Treatment	26.7
92012	Eye Exam and Treatment	17.0
92004	New Eye Exam and Treatment	16.7
92002	New Eye Exam and Treatment	6.9
90050	Office Visit, Limited	3.1
92083	Visual Field Examination (s)	2.4
92225	Extended Ophthalmoscopy, New	2.3
66984	Remove Cataract, Insert Lens	2.1
92250	Ophthalmoscopy; Fundus Photo	1.9
92082	Visual Field Examination (s)	1.8
92353	Special Spectacles Fitting	1.8
92081	Visual Field Examination (s)	1.8
90070	Office Visit, Extended	1.7
90040	Office Visit, Brief	1.6
90060	Office Visit, Intermediate	1.6
90080	Office Visit, Comprehensive	1.1
Total		90.5

Source: BMAD Provider File.

Note: Optometrists providing post operative management services to cataract patients bill under a surgical code and use a modifier to distinguish their services from those provided by the surgeon.

Table 9-8. Distribution of Allowed Charges by Specialty for Services Provided by Optometrists and Ophthalmologists, 1987 (percent of charges)

HCPCS Code	Description	Optometry	Ophthalmology	Total
92014	Eye Exam and Treatment	9	88	97
92012	Eye Exam and Treatment	8	88	96
92004	New Eye Exam and Treatment	13	83	96
92002	New Eye Exam and Treatment	22	71	93
92083	Visual Field Examination (s)	5	92	97
92225	Extended Ophthalmoscopy, New	7	89	96
66984	Remove Cataract, Insert Lens	0.1	97	97
92250	Ophthalmoscopy; Fundus Photo	9	87	96
92082	Visual Field Examination (s)	6	89	95
92353	Special Spectacles Fitting	68	27	95
92081	Visual Field Examination (s)	13	81	94

Source: BMAD Provider File.

Note:

a) Optometrists providing post operative management services to cataract patients bill under a surgical code and use a modifier to distinguish their services from those provided by the surgeon.

b) Totals do not add to 100 because other physicians may provide these services.

Table 9-9. Average Allowed Charge for Services Provided by Both Optometrists and Ophthalmologists, 1987

HCPCS Code	Description	Optometry	Ophthalmology
92014	Eye Exam and Treatment	$33	$40
92012	Eye Exam and Treatment	28	30
92004	New Eye Exam and Treatment	35	42
92002	New Eye Exam and Treatment	32	36
90050	Office Visit, Limited	19	21
92083	Visual Field Examination (s)	57	58
92225	Extended Ophthalmoscopy, New	25	34
66984	Remove Cataract, Insert Lens	167	1570
92250	Ophthalmoscopy; Fundus Photo	18	25
92082	Visual Field Examination (s)	27	36
92353	Special Spectacles Fitting	27	30
92081	Visual Field Examination (s)	17	25
90070	Office Visit, Extended	33	34
90040	Office Visit, Brief	15	18
90060	Office Visit, Intermediate	26	27
90080	Office Visit, Comprehensive	36	41

Source: BMAD Provider File.

Note: Optometrists providing post operative management services to cataract patients bill under a surgical code and use a modifier to distinguish their services from those provided by the surgeon. Ophthalmologists may also use a modifier to indicate "surgery only." The charge for ophthalmologists may represent a combination of global charges and "surgery only" charges.

Chiropractors

Unlike other limited license practitioners, Medicare requires that chiropractors meet minimum educational standards in order to receive Part B payment. These standards prescribe the length of both pre-professional and chiropractic education and appropriate curricula. Chiropractors seeking Medicare payment are further required to pass state chiropractic examinations and to be at least 21 years of age.

Chiropractic colleges offer a four-year curriculum to students who have completed at least two years of college. Among entering students, 13 percent have associate degrees and 35 percent have bachelor's degrees. During the first two years of chiropractic training, students receive instruction in basic sciences (anatomy, physiology, chemistry, nutrition, pathology, and hygiene) and clinical sciences including diagnosis, chiropractic principles, and X-ray. The second two years are devoted to clinical practice in diagnosis and treatment, with approximately half of the time spent in clinics.

Medicare covers only one chiropractic procedure, manual manipulation of the spine to correct a subluxation demonstrated by X-ray (HCPCS code A2000). In 1987 allowed charges for this one code were $134 million, or 0.5 percent of the total for Part B physicians' services.

THE COMMISSION'S APPROACH

The Commission's recommendations in its 1989 report to Congress to eliminate specialty differentials and to exclude from the relative value scale a factor for the opportunity costs of specialty training were based on the principle that physicians should be paid the same when the service is the same. This principle suggests that when the services of LLPs are the same as those provided by MDs and DOs, the payment should be the same.

As mentioned previously, Medicare now applies the same CPR methodology to determine payment for LLPs and MDs. These four LLP specialties are distinguished from other non-MD health professionals by inclusion in the definition of physician. Further, those carriers that do not use specialty differentials generally group LLPs with MDs. Those carriers that do make specialty distinctions group some LLPs with certain MD specialties.

Although charge data do not always provide an accurate guide to relative costs, they are relevant for assessing the likely impact of policy changes. Analysis of charge data indicates that podiatrists and oral surgeons are generally paid the same as MDs for those procedures that both groups provide, but optometrists are paid somewhat less than MDs for overlapping services.

There are a number of dimensions on which the services of LLPs and MDs might differ. These include resource costs and clinical content. For example, LLPs may spend more or less time in providing a given service. No data currently exist, however, that permit direct analysis of these issues. The Commission will develop such data this coming year to allow it to make more informed decisions.

Because limited license practitioners are heterogenous in terms of training, practice characteristics, and the extent to which their services overlap with MDs and DOs, the Commission has chosen to make separate recommendations for each LLP specialty. Underlying all of these recommendations, however, is the principle that payment should be the same when the service is the same.

RECOMMENDATION

> **The principle stated in the Commission's 1989 report that physicians should be paid the same when the service is the same should apply to all practitioners defined as physicians under the Medicare statute.**

Because oral and maxillofacial surgeons were surveyed by Hsiao in his Phase I study, the Commission already has resource-based relative values for their services. In addition, cross-specialty links have been established that permit comparison of intraservice work between oral and maxillofacial surgeons and MD specialties. One family of oral surgery codes, irrigation and exploration of maxillary sinuses (CPT codes 31000-31033), was included in the Commission's reference fee schedule submitted to the Congress in late 1989.[8]

RECOMMENDATION

> **Oral and maxillofacial surgeons should be paid under the Medicare Fee Schedule, using the same relative values and conversion factors as applied to doctors of medicine and osteopathy.**

Information about resource costs for services billed by LLPs under the same procedure codes as those used by MDs and DOs could be used to assign relative values for some services provided by podiatrists and optometrists.[9] But less is known about these services and whether or not they differ from those provided by MDs and DOs. A number of Commission activities already underway should yield more information about these services. For example, in the case of evaluation and management (EM) services, the participation of both podiatry and optometry in advisory panels on EM coding related to the EM coding consensus processes should improve knowledge about the content of visits provided by these practitioners. There will be opportunities to compare many technical procedures provided by LLPs to those provided by MDs and DOs as part of the relative value scale (RVS) refinement process.[10] Visit pattern data collected to develop relative values for specific surgical global services may be useful in comparing services between podiatrists, orthopedists, and dermatologists.

---

[8] See Physician Payment Review Commission, *Services and Procedures for Initial Transition Step to a Medicare Fee Schedule*, prepared at the request of the Subcommittee on Health and the Environment, Committee on Energy and Commerce, U.S. House of Representatives, September 21, 1989.

Each of these sources is likely to shed light on whether LLPs are providing the same services when they bill under the same codes as their MD/DO counterparts. The Commission intends to pursue additional activities to address this question by convening focus groups to investigate similarity in services and possibly by developing estimates of relative work by these providers.

The results of these studies could lead to two different conclusions. The Commission may find that some procedure codes represent different services to different practitioners. These differences could then be accommodated by changes in coding.[11] For other codes, the Commission may find that LLPs and MDs provide similar services. In that case, they should be paid the same amount. Nevertheless, additional work may be necessary to refine relative values for procedures in which LLPs dominate (for example, surgical cleansing of nails) so that estimates of time and work are valid. This input could be obtained via surveys, through consensus panels, or from specialty societies. The Commission anticipates that these issues will be resolved well before implementation of the fee schedule in 1992.

---

[9] Work values for a number of services provided by podiatrists are available through Hsiao's surveys of orthopedic surgeons and dermatologists. Similarly, work values for some optometry services are available through Hsiao's survey of ophthalmologists.

[10] The RVS refinement process will allow review of the accuracy and reasonableness of relative work values assigned to technical procedures and will provide opportunities to identify and comment on work values that appear unreasonably high or low.

[11] It has been suggested that the perception that limited license practitioners provide the same services as MDs and DOs may be an artifact created by the HCPCS coding system. Although CPT codes were developed to characterize services provided by medical doctors, the Health Care Financing Administration has adopted CPT for all Medicare-defined physicians.

RECOMMENDATION

Because less is known about whether podiatrists and optometrists provide the same services as doctors of medicine and osteopathy when they bill under the same procedure codes, the Commission will conduct additional analyses this year to make recommendations on how to pay these practitioners under the Medicare Fee Schedule.

The Commission has further determined that for those specialties whose practices do not overlap the practices of MDs and DOs, a unique fee schedule should be created. In the case of chiropractors, only one service, spinal manipulation (HCPCS code A2000), is covered by Medicare. This code is used exclusively by chiropractors.

RECOMMENDATION

Because of difficulties in linking chiropractic services into the Medicare Fee Schedule, a separate budget neutral fee schedule that incorporates a geographic adjustor should be constructed for the single chiropractic service covered by Medicare.

CHAPTER 10

FINANCIAL PROTECTION FOR BENEFICIARIES

The physician payment reform enacted in the Omnibus Budget Reconciliation Act of 1989 (OBRA89) will provide substantial financial protection to most Medicare beneficiaries. The reforms include limits on the amount physicians can charge above the Medicare approved payment amount. These charge limits--often referred to as balance billing limits--will replace the complicated system of physician-specific charge limits known as maximum allowable actual charges (MAACs). By 1993 physicians' charges to patients will be limited to 115 percent of the fee schedule amount.[1]

The Commission set financial protection for beneficiaries as a primary goal for physician payment reform in its first report to Congress. It views the provisions of OBRA89 to be a major step toward this goal.

The Commission remains concerned about potential adverse effect of balance billing, especially in situations where the beneficiary has no meaningful choice of physician. It plans to monitor assignment and participation rates in the Medicare program closely. It will also continue to analyze the burden of balance billing on beneficiary populations and will recommend further policy changes if appropriate.

The Commission's plans for monitoring the impact of the payment reform legislation on beneficiaries' financial liability are described in this chapter. As part of its work to develop recommendations on Volume Performance Standards (VPS), the Commission also plans to monitor beneficiaries' access to care (Chapter 11).

This year the Commission analyzed two specific areas in which beneficiaries may not yet be adequately protected by current Medicare policies. The Commission considered the feasibility of policies based on the principle endorsed in its 1989 report; namely, that balance billing should be prohibited when the beneficiary has no meaningful choice of physician. The second section of this chapter briefly reviews this issue.

---

[1] In 1991 the charge limits are set at the lower of 125 percent of the prevailing charges or the 1990 MAAC. In 1992 the charge limit is set at the lower of the old MAAC or 120 percent of the fee schedule payment for nonparticipating physicians.

The Commission also examined the inability of current Medicare policies to protect beneficiaries with unassigned claims from either charge limit violations or charges that are denied by carriers due to unacceptable billing practices. The final section of the chapter focuses on the Commission's recommendations for increasing financial protection for individual beneficiaries in these circumstances.

RECOMMENDATIONS

The regulations implementing charge limits under the Medicare Fee Schedule should make clear to carriers, physicians, and beneficiaries that the limits apply to the total Medicare allowed charge after any reductions or denials related to fragmented bills have been applied by the carrier. Carriers should monitor charge limit requirements on each claim as part of their routine claims processing activity. They should also notify physicians in writing of all suspected violations and their potential consequences. Beneficiaries should be informed about the charge limits in the *Medicare Handbook* distributed by the Health Care Financing Administration.

Medicare should provide information on the Explanation of Medicare Benefit (EOMB) forms to help protect beneficiaries from fragmented charges, as well as from charges exceeding Medicare charge limits. The correct allowable maximum charge for the total claim should be calculated for the beneficiary on the EOMB form. The EOMB form should state that the beneficiary is not liable for any amount above this maximum.

Professional medical organizations should keep their members informed about the rules and regulations governing Medicare billing. These organizations should increase efforts to help beneficiaries when they have problems with their physician bills related to Medicare carrier payment policies.

Beneficiary organizations should intensify their efforts to help beneficiaries understand the process as well as the rules and regulations governing Medicare claims payment and should intensify their efforts to help individual beneficiaries resolve problems with their Medicare and supplementary insurance bills.

EVALUATING BALANCE BILLING, ASSIGNMENT, AND PARTICIPATION

Assessing the success of physician payment reform requires a full understanding of the experiences and concerns of Medicare beneficiaries. Learning more about how beneficiaries use and pay for physician services will become increasingly important in the next few years. It will also be necessary to know more about whether beneficiaries understand the Medicare program and how it is changing.

If beneficiaries are to play an active role in efforts to make medical care more effective and efficient, they must be able to make good decisions about their care. Those decisions may be influenced by whether the physician will accept Medicare assignment, that is, accept the Medicare allowed charge as payment in full. It is therefore necessary to learn more about how beneficiaries choose among and interact with physicians, and what role physicians' assignment practices play in those relationships. Most important is the need to develop sensitive and reliable indicators of potential problems in access to care so that threats to access can be reversed before beneficiaries' health is compromised.

The payment reform legislation requires the Secretary of Health and Human Services (HHS) to monitor the charges of physicians who are not enrolled in the Participating Physician and Supplier (PAR) program, identify any significant increases in unassigned claims, and develop a plan to address such problems.[2] Because the Commission is required to review this plan and submit its comments to the Congress, it will continue to play an active role in monitoring beneficiary financial liability.

One important source of information available to the Commission will be the Health Care Financing Administration's (HCFA) Current Beneficiary Survey (Chapter 11). This will provide information on beneficiaries' out-of-pocket costs, access to care, health status, and satisfaction with a wide array of services. For example, if the establishment of predictable charge limits results in more supplemental private insurance policies--often referred to as medigap policies--covering balance bills, this could lead to higher premiums and to more balance billing. The survey should be able to detect whether such changes occur and their effects on beneficiary financial liability and access to care.

The Commission also plans to conduct its own studies of beneficiaries' financial liability, relationships with physicians, understanding of assignment and participation, and access to care. Several studies already under way at the Commission are described briefly below.

Further Analyses of the Commission's Survey of Medicare Beneficiaries

The Commission will link Medicare Part B claims data to the survey data collected in late 1988 for its survey of Medicare beneficiaries.[3] The combined file will provide a unique opportunity to investigate a range of beneficiary issues. The survey data include information on demographic characteristics, health status, and experiences with paying physician bills for a nationally representative sample of almost 2,000 beneficiaries. Data from the HCFA Part B data files provided to the Commission in early 1990 include these beneficiaries' 1988 Medicare claims for all Part B services and procedures.

---

[2] Physicians who choose to enroll in the PAR program agree in advance to accept assignment on all Medicare claims for a one-year period. By selecting PAR physicians, beneficiaries can be assured that their claims will be accepted on assignment. Assignment and participation are discussed in Chapter 1.

[3] The survey is described in *Assignment and the Participating Physician Program: An Analysis of Beneficiary Awareness, Understanding, and Experience,* Physician Payment Review Commission Background Paper No. 89-1, September 1989.

Initial analyses are focusing on: (1) costs for assigned and unassigned care among different demographic groups; (2) the extent to which beneficiaries have been willing or able to discuss their bills with physicians, and whether physicians have adjusted bills when problems have been raised by beneficiaries; and (3) the factors accounting for beneficiaries' willingness to seek out physicians who provide care on an assigned basis.

Analyses of Claims Data to Monitor Access

Analyses of a 5 percent sample of beneficiary claims data are addressing a range of issues related to assignment, participation, and utilization of services. Included are studies to:

- identify tracer services for monitoring access and measure baseline utilization rates for these services among various Medicare populations (for example, poor, rural, urban, frontier counties, blacks, whites); and
- examine the potential of using balance bills as one indicator in monitoring access, and measure the current balance billing amounts and rates for various Medicare populations.

Analyses of Enrollment in the Participating Physician and Supplier Program

Commission staff are investigating why charges for services provided by physicians who are enrolled in the PAR program have increased more rapidly than the number of physicians enrolled in the program. Analyses of claims data from several carriers obtained under a contract with The Circle, Inc. will focus on beneficiaries' use of participating and nonparticipating physicians. The data should also provide some insight into the relationship of factors such as practice size and intensity (that is, the number of services per Medicare beneficiary) to physician participation.

BALANCE BILLING WHEN BENEFICIARIES HAVE NO MEANINGFUL CHOICE OF PHYSICIAN

In its 1989 report to the Congress, the Commission stated that, in principle, balance billing should be prohibited when the beneficiary has no meaningful choice of physician. Specifically, the Commission expressed concern that beneficiaries may be exposed to substantial financial risk by their inability to shop for a physician who will accept assignment particularly for services provided by radiologists, anesthesiologists and pathologists (RAPs) or emergency services.

Information available at the time, however, did not allow the Commission to determine whether all services provided in these two cases entail limited patient choice and whether there are other circumstances that might similarly limit choice. The Commission's analysis, therefore, focused first on clearly delineating those circumstances that limit choice and then on appropriate policy options.

Defining Choice

Information considered by the Commission suggests that it is difficult to differentiate RAP services from those provided by other physicians. They also suggest that not all services provided by RAPs entail limited patient choice. First, RAP physicians do not appear unique with respect to their relationships with patients. While RAPs may not in general have close, personal and longstanding relationships with patients, some subgroups within RAP specialties may. Further, other specialists may also lack a close, continuing relationship with patients when acting as consultants.

Second, the market for RAP services may not differ markedly from the market for other physicians' services. Although RAP practices are closely integrated with the hospital, other types of medical practice, including emergency medicine, rehabilitation medicine, and, in some cases, consultative specialties like cardiology, may also meet this definition (U.S. Congress, 1986).

Third, with the exception of anesthesiologists, patterns of assignment, participation, and balance billing amounts of RAP physicians are similar to those of other physicians.

Fourth, physician specialty may not be as important in patients' ability to choose a physician as other factors such as place of service, geographic site of service, and the patient's functional status. For example, patient choice may be more limited in inpatient hospital settings than in outpatient sites of service. Beneficiaries residing in rural counties or manpower shortage areas where the supply of specialists is limited may also effectively have no choice if the need for a specialist arises. Similarly, acutely ill beneficiaries may not be functionally able or have sufficient time to select among competing physicians on the basis of price or any other criteria.

The Commission also considered the ability of beneficiaries to choose a specific physician in emergency situations. It determined that prohibiting balance billing in these circumstances would require an operational definition of emergency services. Current data elements that identify emergency services, however, appear to be unreliable or fail to capture many true emergencies.

Policy Options

Although the Commission considered several options to further protect beneficiaries from balance bill liability where choice of physician is limited, none was recommended. Because it is difficult to define accurately all situations in which patient choice is limited, an ideal policy solution cannot be developed, and trade-offs must be made. A policy designed to include all "no choice" situations is also likely to limit balance billing in many situations in which individual beneficiaries are able to choose physicians who accept assignment. A policy designed to target identifiable no choice situations is also likely to exclude some situations in which beneficiaries do not have an opportunity to choose their physicians.

Furthermore, the context for considering policies to expand beneficiary protection has changed considerably since the Commission stated its principle regarding no choice situations in its 1989 report. The charge limits included in OBRA89, when fully implemented, will significantly reduce balance billing on most claims. Fewer beneficiaries will have balance bills, and fewer beneficiaries will have large balance bills.[4] Moreover, accepting assignment may become increasingly attractive when the effective charge limit for nonparticipating physicians is 9.25 percent above the Medicare allowed charge for participating physicians.[5]

If, however, future analyses show significant increases in balance billing liability in situations where beneficiaries have no meaningful choice of physician, the Commission will consider additional policy changes.

BENEFICIARY PROTECTION FROM FRAGMENTED CHARGES

The Commission is concerned that currently Medicare policies do not provide adequate financial protection to individual beneficiaries with unassigned claims when payments are reduced or denied by carriers due to billing problems. There are similar weaknesses in current provisions protecting beneficiaries from charges that exceed maximum allowable actual charges and the new limits on actual charges introduced by OBRA89. This section presents the policy options considered by the Commission and its recommendations for increasing beneficiary protection on unassigned claims.

Fragmented Bills and Charge Limits

Carriers review claims for payment to ensure that the services billed are covered by Medicare, are medically necessary and appropriate, and are billed in a manner that conforms to Medicare charge policies. Review of a series of concerns raised by beneficiary organizations has led the Commission to conclude that two related issues should be addressed. The first is beneficiary liability for billed charges when carriers deny or reduce claims because they show separate charges for services that are already included in another billed procedure code. The second is whether current Medicare policy regarding the enforcement of limiting charges on unassigned claims protects beneficiaries adequately.

---

[4] The Commission has estimated that the charge limits included in OBRA89 will reduce aggregate beneficiary balance billing liability by more than 70 percent, assuming that assignment and participation rates do not decrease.

[5] The balance billing limit will be set at 115 percent of the payment for nonparticipating physicians, which is 95 percent of the fee schedule amount.

Fragmented Bills. Some Current Procedural Terminology (CPT) codes encompass a set of services or procedures. Carriers have also established global surgical fees that cover perioperative technical procedures and evaluation and management services associated with surgical operations.[6] HCFA and many insurers commonly use the term fragmented bills to refer collectively to claims in which physicians bill separately for services that are encompassed in a single procedure code or in a carrier global fee.

Billing for both a procedure that is included as part of a CPT code and simultaneously for that same procedure using a second CPT code constitutes doublebilling. An example would be a bill that includes a charge for CPT code 58150 ["total hysterectomy (corpus and cervix), with or without removal of tubes(s), with or without removal of ovary(s)"] and separate charges for removal of either tubes or ovaries. The additional procedures would be disallowed by the carrier, since these procedures are clearly part of the total hysterectomy.

Intentional double billing is an abuse of the Medicare program. Physicians who knowingly and willfully charge for the same service more than once can be subject to fines or excluded from the Medicare program. Even if double billing is proven, however, there is no legal or regulatory requirement that financial restitution be made to individual beneficiaries. As for violations of Medicare charge limits, beneficiaries may be compensated from fines assessed against physicians, but this is decided on a case-by-case basis as discussed below.

Billing separately for individual services or procedures that are included in a global surgical fee is called unbundling. For example, if a global fee includes preoperative visits on the day of surgery, billing separately for these visits in addition to billing for the surgery itself would violate the carrier's global service policy. Therefore, payment for the visits would be denied.

Unbundling reflects lack of conformity with carriers' global service policies, while double billing reflects misuse of CPT codes.[7] The implications for beneficiaries are similar. When claims are assigned, the carrier determines the allowed charge after making any adjustments in submitted charges that might be necessary due to its billing policy. The Medicare payment is then made directly to the physician. The beneficiary is informed of the payment and of his or her liability for the deductible and copayment. On assigned claims, any reductions applied by the carrier are deducted from the payment to the physician. Since the physician has agreed to accept the Medicare payment as payment in full, the beneficiary is not financially at risk.

---

[6] A discussion of the Commission's work on defining global surgical fees is presented in Chapter 3.

[7] The distinction between doublebilling and unbundling is, however, sometimes difficult to discern in practice. This is because CPT code definitions may not always precisely conform to the set of procedures performed by a physician, and global service definitions have not been implemented consistently across carriers (Chapter 3). Physicians may have some difficulty choosing the correct sets of codes to bill for the services actually performed.

Payment on unassigned claims, however, is made to beneficiaries who usually have already been billed by their physician. When unassigned claims are reduced or denied because services have been billed in a manner that does not conform to carrier billing policy, beneficiaries may have already paid physicians amounts significantly higher than the carrier-allowed payment.[8]

Medicare law and regulations provide that carriers notify individual beneficiaries of denials associated with unnecessary or inappropriate care. Beneficiaries may then request reimbursement for the denied charges under what are called "waiver of liability" provisions. A note explaining this financial protection and how to apply for recoupment of denied charges is printed clearly on the Explanation of Medicare Benefits (EOMB) form sent to beneficiaries on both assigned and unassigned claims. But when charges are reduced or denied because they do not conform to carrier billing policy, beneficiaries are informed only of the charges that have been denied and of the Medicare allowed amount for the claim. The EOMB form for unassigned claims does not indicate that beneficiaries should not pay for the charges that were denied because they are already included in other codes.

The implementation of the physician payment reform legislation and coding reform could alleviate some of the problems currently facing beneficiaries on unassigned claims. The statutory provision requiring physicians to submit all claims could lead to improved billing practices. Physicians may be more careful to understand carrier billing policy if they are responsible for filling out the claims forms. Beneficiaries may be more willing to raise billing problems with their physicians if the physicians submitted the information that led to the carrier payment reductions or denials. The development of clear, uniform definitions of services to be included in global surgical fees should also reduce the incidence of overcharging due to unintentional miscoding and unbundling of services. The Commission believes, however, that even with these reforms, current carrier policies will not adequately ensure against inappropriate beneficiary liability for fragmented charges.

Charge Limits. Before OBRA89 was enacted, charges on unassigned claims were constrained by maximum allowable actual charges. These limits apply to charges for individual procedures. They are based on each physicians' charges in a base period (April through June 1984, or local customary charges in 1985-1986 if the physician had no charges in 1984) and prevailing charges for nonparticipating physicians.[9] MAACs will be replaced by charge limits set at fixed percentage of Medicare payments. The penalties for failing to comply with the new charge limits are the same as those for MAACs.

---

[8] There is no data currently available on the level or distribution of excess charges associated with fragmented bills. In testimony before the Commission on January 18, 1990, a spokesman for the Blue Cross and Blue Shield Association indicated that the Association might be able to provide some information on the extent of beneficiary liability on fragmented charges. Information on carrier charge reductions related to unbundling or doublebilling could be compiled from claims data if the necessary data been retained on carrier data systems. However, how individual beneficiaries and their physicians actually resolved such billing issues, that is, whether physicians reimbursed beneficiaries when they are informed that charges were denied, could not be determined without substantial effort.

Monitoring and enforcing charge limits on unassigned claims has been very difficult for carriers. MAAC violations are monitored separately from the claims payment system, because the Medicare customary, prevailing or reasonable (CPR) allowed charge alone does not provide sufficient information to determine the MAAC for a given claim. Because the system is so complex, and there is a great deal of uncertainty about MAACs, carriers have been instructed to focus only on selected procedures and on violations exceeding $500. Further, MAACs have been applied to the past billing practice of each physician for each service, not to total Medicare bills. If a physician charged for unbundled services during the base period, MAACs would be assigned for each separate service, even though the unbundled services would be denied. It can therefore be difficult to determine whether unbundled charges violate MAAC limits.[10]

Even if a MAAC violation is identified, there is no guarantee that an individual beneficiary will be able to recover the excess amount already paid to the physician. When carriers detect possible MAAC violations, they notify physicians in writing of the problem. The letter also explains the possible sanctions that could be imposed if the problems are not rectified. No notification is sent to beneficiaries.

If physicians choose not to refund beneficiary payments for charges that carriers identify as unbundled or duplicate charges, or for charges in excess of MAACs, there is only limited regulatory and legal protection for beneficiaries. To summarize the technically complex law and regulations, if carriers identify a physician who is "knowingly and willfully" violating MAAC regulations on a repeated basis, they may initiate an investigation. It is extremely unlikely, however, that they will recoup any excess.[11]

---

[9] For physicians with charges exceeding 115 percent of the prevailing charge for nonparticipating physicians, MAACs limit increases in actual charges to one percent per year. For physicians whose charges are less than 115 percent of the prevailing charge, MAACs limit actual charge increases so they may not exceed 115 percent.

[10] A memorandum to HCFA regional offices from HCFA's Office of Payment Policy on February 8, 1990 stated that "if a physician has a MAAC which was established based on charges in the 4/1 - 6/30/84 period for a surgical service which encompasses the usual intra-operative procedures and post-operative care associated with that procedure, the total of the fragmented charges for the elements of the service cannot exceed the MAAC for the global service." However, the memo also indicated that this policy may not have been clear to carriers.

[11] Investigations can lead to the imposition of sanctions by the HHS Office of the Inspector General. These sanctions could include fines, from which beneficiaries could be indemnified for excess charges. Sanctions could also include a physician's removal from the Medicare program. Establishing a pattern of abuse, and establishing that such abuses are intentional, however, is difficult. As a result, this mechanism does not provide any meaningful financial protection for individual beneficiaries experiencing problems with a claim.

Beneficiaries' risks of being charged more than Medicare allowed amounts on unassigned claims are likely to be reduced under the fee schedule. The fee schedule makes it easier for carriers, physicians and beneficiaries to know exactly what the Medicare payment for every procedure and operation is, and therefore to calculate the limiting charge for all procedures and services. It will also be easier for carriers to monitor and track possible charge violations associated with fragmented bills because this will no longer require examining individual physicians' past billing practices. Under the fee schedule, carriers could inform the beneficiary of the limiting charge for an entire unassigned claim, which is not feasible under MAACs. The Commission believes that these reforms, together with an expansion of carriers' responsibilities for monitoring charge limitations on assigned claims, could significantly help beneficiaries.

Policy Options

The Commission considered four options for increasing beneficiary protection on unassigned claims. It concluded that carriers, along with organizations representing physicians and consumers, should assume greater responsibility in this area. This section describes the options recommended by the Commission for expanding carriers' responsibilities for identifying problems related to fragmented charges and assisting beneficiaries in recovering payments for improperly billed services. It also presents options for more concerted efforts by medical and consumer organizations to educate physicians and beneficiaries about Medicare billing.

Options for indemnifying beneficiaries for overpayments that result from fragmented bills and for changing the statutory provisions that define charge limit violations are also discussed. In the Commission's view there are disadvantages to these options, and beneficiaries can be afforded considerable protection without changing existing law.

Expanding Carrier Responsibilities for Implementing Balance Billing Limits. Under the OBRA89, limits on balance billing will be set at fixed percentages of payments allowed under the fee schedule. These limits are intended to be applied to Medicare allowed fees for services that meet carrier standards for payment. The regulations implementing the charge limits should therefore be designed to make it completely clear to carriers, physicians, and beneficiaries that the limits apply to the total allowed charge after any reductions or denials have been applied to fragmented charges by the carrier. The *Medicare Handbook* that HCFA distributes to beneficiaries should be revised to include an explanation of the new charge limits and beneficiary protection against fragmented charges.

Carriers should be instructed to indicate when reductions have been made to correct unbundled or duplicate charges on EOMB forms for unassigned claims. This should be done in clear and simple language. The EOMB form could, in addition, inform beneficiaries that the Medicare statute stipulates that the physician may not charge them more than the statutory limiting charge for correctly coded services.[12] The limiting charge for unassigned services on the total claim could also be calculated for the beneficiary on the EOMB form.

Moreover, carriers should increase efforts to monitor limiting charge violations. Under the fee schedule, carriers will be able to monitor all charges rather than selected charges as they have done with MAACs. In addition, carriers could set up automated systems for following up problems with individual claims. This could be done by sending letters to physicians suspected of fragmenting bills. These letters would explain how procedure codes should have been used and what the maximum fees should be. They would also explain the civil penalties that could be applied if the physician were found to have knowingly and repeatedly billed in excess of Medicare allowed amounts.

The Commission believes that increasing carrier responsibilities for ensuring beneficiary protection on unassigned claims will require additional funding. Developing new software to calculate allowed amounts and print individualized messages on EOMB forms, plus the costs of setting up new monitoring systems, responding to questions, and so forth would result in additional work for carriers. Recent cuts in carrier budgets have already strained their ability to complete their assigned tasks. Additional and stable funding for carrier operations is necessary if they are to serve beneficiary, physician, and program needs adequately (Chapter 14).

Increasing Beneficiary Protection By Increased Involvement of Providers and Consumers. An additional approach the Commission considered was to encourage formally and publicly greater involvement of physician and consumer organizations in monitoring physician billing practices. When physicians seem not to conform to generally known and accepted billing practice, it would be very helpful if beneficiaries were encouraged (and provided with the necessary technical assistance) to bring denied claims to their physicians' attention. Given the complexity of the Medicare system, many beneficiaries clearly will be unable to find their way through the administrative maze on their own.

Through their professional organizations and professional conduct boards, physicians are ultimately responsible for regulating the conduct of their peers. Professional organizations can help ensure that their members know and understand billing rules and regulations. Professional organizations might want to provide assistance to beneficiaries who are experiencing problems with unassigned claims.

Beneficiary organizations could also intensify their efforts to help beneficiaries with problems with their Medicare and supplementary insurance bills. Beneficiaries need help understanding the existing Medicare payment system and will need to learn about the new provisions associated with the introduction of the fee schedule. They need to know how to interpret the information on their EOMB forms and how to determine whether the items listed on unassigned bills reflect appropriate billing practice. Educational programs could be designed to teach beneficiaries to question physicians when they believe that charges denied by the carrier violate accepted billing standards.

---

[12] Such notification would follow the precedent established for notifying beneficiaries about indemnification procedures when services are denied because they are determined to have been medically unnecessary.

Indemnifying Beneficiaries for Overpayments Resulting from Fragmented Bills. A more direct approach to protecting beneficiaries against unbundled or duplicate charges on unassigned claims would be to authorize carriers to indemnify beneficiaries for these payments. Carriers would then recover the payments from the physicians.

There are a number of problems with this approach, however. It is generally agreed that carriers lack explicit statutory authority to indemnify beneficiaries for payments they may have made directly to their physicians for services that carriers determine were billed improperly. Even if such authority were created, the extent to which carriers can act on behalf of beneficiaries when claims are unassigned is unclear.

Practical problems are associated with this approach as well. Recovering beneficiary overpayments from non-participating physicians could be difficult. Carriers could not count on deducting the amount in question from future Medicare payments because carriers do not pay physicians who do not take assignment. The legal costs involved in recovering payments for fragmented bills could easily exceed the amount of the overpayments.

Strengthening the Statutory Provisions Regarding Charge Limit Violations. While implementation of the recommendations listed above could ensure substantial beneficiary protection under existing law, a change in Medicare law would be necessary to enforce limiting charge requirements on individual claims. The Commission therefore considered whether legislative changes should be recommended. Specifically, the Commission reviewed the desirability of proposing that the Social Security Act be amended (1) to eliminate the provision that sanctions of physicians for charge limit violations be based on confirmation of a repeated pattern of willful and knowing abuse; and (2) to provide that physicians be required to refund beneficiary overpayments on a case-by-case basis (perhaps with some dollar threshold, such as $50). This provision would have to include a system whereby physicians would have the opportunity to appeal carrier reasonable charge decisions before such sanctions were imposed.

The Commission concluded, however, that such a statutory change could cause difficult administrative problems. A great deal of care has been taken, often in response to intense pressure from both beneficiaries and physicians, to guarantee due process in considerations relating to payment and coverage decisions. It would be essential to retain rights of due process if the law were changed. Combining such due process with procedures to require repayments on a case-by-case basis could be quite expensive and burdensome.

In conclusion, the Commission believes that existing law, together with the recommendations discussed above, would ensure that beneficiaries and physicians were clearly informed about allowed charges and would strengthen existing mechanisms for identifying physicians who flagrantly or consistently violate the law.

REFERENCES

U.S. Congress, Office of Technology Assessment, *Payment for Physicians' Services: Strategies for Medicare*, OTA-H-294, Washington, D.C.: U.S. Government Printing Office, February 1986.

CHAPTER 11

SETTING MEDICARE VOLUME PERFORMANCE STANDARDS

Medicare Volume Performance Standards (VPSs), enacted as part of the Omnibus Budget Reconciliation Act of 1989 (OBRA89), provide a new approach to controlling Medicare physician expenditures. The legislation directs both the Department of Health and Human Services (HHS) and the Commission to make annual recommendations to the Congress regarding rates of expenditure increase. The Commission's recommendations for fiscal year 1991 will be submitted to the Congress by May 15, 1990. The Congress will use these recommendations in setting a standard for the rate of increase in spending for Medicare physician services.

The legislation closely parallels the Commission's recommendations for expenditure targets set forth in its 1989 annual report (PPRC, 1989).[1] The Commission believes that Volume Performance Standards are an essential component of physician payment reform. It looks forward to working with HHS, the Congress, physicians, beneficiaries, and researchers in making these reforms a success.

Volume Performance Standards are a response to continuing, unacceptably high rates of growth in Medicare Part B expenditures. As was discussed in Chapter 1, physician expenditures continued to rise very rapidly during the 1980s. If these rates of growth continue, the additional expenditures are likely to come at the expense of other public programs, such as education, public health, aid to the poor, or through an increase in taxes or Part B premiums.

Different criteria can be used to determine the most appropriate level of Medicare physician expenditures. One would be to pay for all care that results in any improvement in health, a viewpoint that some would argue has often characterized medical decision-making (Fuchs, 1974). In fact, current Medicare coverage criteria are consistent with this approach. Medicare typically pays for most reasonable and necessary services associated with the treatment of acute conditions.[2]

---

[1] More detailed information on the specific provisions of the legislation is provided in Chapter 2.

A second, more stringent criterion would be that additional services should be financed only if their benefits exceed their costs. This explicitly recognizes the fact that the resources being absorbed by medical interventions that provide only marginal health benefits may be better spent elsewhere.

Third, in deciding where to spend additional resources, the Congress might wish to compare the benefits derived from expanding alternative government programs. Even though additional spending on a particular government program may produce benefits that exceed the program's cost, the Congress might find it more desirable to spend tax dollars elsewhere. This would be the case if there were other public programs that would achieve greater benefits for the same amount of money or provide a more equitable distribution of benefits.

The enactment of VPSs is an important step toward rethinking the way in which medical care resources are allocated in the United States. For the system to work successfully, both physicians and beneficiaries will have to recognize that medical care decisions must reflect the relative costs and benefits of additional expenditures. Physicians will need to limit the provision of services to those that are effective and appropriate. Patients will have to recognize that the Medicare program may be unable to pay for services of limited medical value.

Nevertheless, large reductions in volume and intensity growth are likely to be achieved only gradually. In the short term, there is considerable potential for improving utilization and quality review through better application of current knowledge of what services are most appropriate in each clinical situation. However, there is also a critical need for expanded research on the clinical effectiveness and the cost-effectiveness of medical services. When this information is incorporated into practice guidelines and disseminated to the physician community, physicians will have better information for making decisions about the services that they provide (Chapter 2).

This chapter is divided into two sections. The first discusses factors to be considered in setting annual performance standards, focusing on the availability of information needed to set the standards accurately. The second section examines the scope of services to be included in the VPS system. Subsequent chapters will then explore alternative ways in which performance standards might be specified. These include the establishment of subnational performance standards (Chapter 12), options such as Medicare risk contracts with health maintenance organizations (HMOs) and physician carve-outs (Chapter 13), and ways to facilitate positive responses to the VPS system (Chapter 14).

---

[2] Medicare prohibits payment for services that are not "reasonable and necessary for the diagnosis and treatment of illness or injury or to improve the functioning of a malformed body member" (Social Security Act, Section 1862). "Reasonable and necessary" are not explicitly defined in the Social Security Act. The Health Care Financing Administration (HCFA) has, however, issued proposed rules for determining whether a technology or service will be covered. Under these rules, there are three basic criteria for coverage decisions: (1) the service or technology must be safe and effective, (2) it may not be experimental or investigational, and (3) it must be appropriate. Issues to be considered in reviewing these criteria are set out in the proposed rule (*Federal Register*, January 30, 1989).

ESTABLISHING ANNUAL VOLUME PERFORMANCE STANDARDS

Under OBRA89, two steps are involved in adjusting physician fee levels each year. First, a targeted rate of expenditure growth (that is, the Volume Performance Standard) is established.[3] Second, this rate is compared to the actual growth in expenditures. The difference between the two is reflected in the size of the update in the conversion factor that translates relative values into the actual fee level for each service.[4]

The legislation states that the Secretary should consider the following factors in developing recommendations about the size of annual performance standards[5]:

- inflation;
- changes in the number and age composition of Medicare beneficiaries;
- changes in technology;
- evidence of inappropriate utilization and evidence of reduced access to necessary services; and

---

[3] The Secretary of HHS may periodically define categories of physicians' services. If such categories are defined, then the Secretary must make separate recommendations not only about growth in the VPS for all physician services, but also for each category of service. Service categories are discussed in more detail in Chapter 12, which focuses on subnational VPSs.

[4] In general, the conversion factor would be equal to the percentage change in the Medicare Economic Index (MEI) minus (or plus) the amount by which targeted expenditures exceed (or fall short of) the targeted amount. However, there are a number of other factors that the Secretary is also to consider in setting the conversion factor, including changes in the volume and intensity of services and access to services.

[5] If the Congress does not approve specific VPSs, then a formula will be used to establish default standards. The formula to be used is described in Chapter 2.

- other factors judged appropriate by the Secretary.[6]

The Commission is charged with reviewing the Secretary's recommendations on the size of annual performance standards. This chapter will examine how each of the factors reflected in those recommendations can be measured.

Inflation

A resource-based fee schedule should be adjusted annually to account for changes in the cost of the resources used to provide services--both nonphysician inputs and the cost of physicians' time and effort. Inclusion of an inflation component in the performance standards, as called for by the legislation, provides a mechanism to account for these factors.

There is a mechanism already in place that performs a similar function: the Medicare Economic Index (MEI). During the first ten years of Medicare (the index was put in place in 1975), the Medicare physician payment method was inherently inflationary: collective increases in physicians' billed charges would later be reflected in higher Medicare allowed charges. The purpose of the MEI was to break this linkage, so that Medicare payment rates (as reflected in the prevailing charge) rose with, but not more than, inflation rates.[7]

As currently structured, the MEI is calculated each year from a formula that takes into account two factors: increases in physician practice costs, and increases in general earnings in the economy, excluding increases in productivity.[8] The first component is given 40 percent of the weight. This reflects the fact that when the index was developed, 40 percent of physician gross revenues were attributable to practice expenses, while the other 60 percent were attributable to physician net income. The 40 percent figure, in turn, is subdivided into several components: salaries and wages of personnel, office space, drugs and supplies, automobile expenses, malpractice insurance premiums, and other expenses.

---

[6] In order to set performance standards, it is necessary to make predictions about future growth rates in inflation, changes in technology, and other factors such as medical care needs of the Medicare population. Because such predictions may turn out to be wrong, the VPS system allows the Secretary of HHS to examine factors (besides volume performance) that may have contributed to unexpected increases in expenditure growth. The Secretary may then include them in future recommendations concerning the size of the conversion factor.

[7] The MEI did not entirely eliminate the linkage between physician pricing and Medicare payments because it only affects the Medicare prevailing charge. If, for a particular procedure, a physician's customary charge is lower than the prevailing charge, then the Medicare payment rate can rise faster than the MEI if he or she raises charges more than the growth rate in the MEI.

[8] Increases in productivity are derived from an index of weekly earnings of nonagricultural workers. Productivity increases are subtracted from the measure of general earnings to avoid double-counting. This is because physicians already realize the benefits of labor-saving productivity increases through their ability to provide more services per hour of work, for which they receive additional fees (Dutton and McMenamin, 1981). For most other workers, however, increases in output per hour (productivity) are reflected through increases in hourly wage rates.

The Health Care Financing Administration (HCFA) compiles data from a variety of sources to compute the index annually. The agency also periodically changes the relative weights of the six practice expense components (but not the 40 percent weight attributable to practice costs). Most of the data used in calculating the MEI are obtained through indices of consumer and producer prices.

The MEI has two important roles in the VPS system. First, it is one of the factors the Secretary uses to recommend annual performance standards. Second, it is also used in updating the conversion factor. It is therefore very important that the index be constructed and estimated in a manner that is most consistent with its intended purpose under VPSs: to adjust for changes in the cost of providing services.

The Health Care Financing Administration's Office of the Actuary is reviewing the MEI to ensure that the input cost categories, their weights, and data sources employed reflect the most timely and accurate data. Because of the central role played by the MEI in the VPS system, the Commission strongly supports this initiative. The Commission will monitor progress in refining the MEI and report to the Congress what is accomplished.

Growth and Aging of the Medicare Population

The primary purpose of the VPS system is to provide a collective incentive for physicians to control the rate of increase in the volume and intensity of services provided to program beneficiaries. The growth and aging of the Medicare population, like general inflation rates, may contribute to expenditure growth. But it is beyond the control of the physician community. These should be taken into account when establishing annual performance standards.

Adjusting performance standards to account for the growth and aging of the Medicare population can be done readily with available data. With respect to enrollment growth, Medicare eligibility data are updated continuously by HCFA. From 1989 to 1990, for example, Medicare Part B enrollment increased by 1.7 percent. Adjusting performance standards for the aging of the Medicare population can typically be done by determining the ratios of average Part B expenditures for different age groups during a baseline period and calculating how expenditures would be altered as the proportion of beneficiaries in each age category changes.[9] Such adjustments, however, will have a negligible impact on annual increases in Part B expenditures.

---

[9] Fuchs (1984) contends, however, that this method will tend to overestimate expenditure growth attributable to aging. This is because one of the causes of the aging of the Medicare population is lower death rates. Since medical care expenditures rise as death approaches, postponement of death to later years will mean that people entering a given age cohort will be further from death than were previous cohort members, and consequently, their spending might not be as high. He suggests that this problem can be corrected by adjusting expenditure estimates for survival rates. Mortality data collected by the National Center for Health Statistics could provide sufficient information to do so.

Changes in Technology

It is widely acknowledged that one of the primary factors driving health care cost inflation has been rapid development and use of new and complex medical technologies. In some countries, the diffusion and use of medical technologies are strictly controlled by government. In the United States, however, fewer direct controls exist; most decisions to adopt and use new medical technologies are made individually by providers.

Changes in technology may affect Medicare expenditures in a number of ways. They can:

- change the amount of physician work required to provide a particular physician service;
- alter the amount of nonphysician inputs used in providing a service; and
- change the number or composition of services that are provided in diagnosing and treating a particular medical condition or the number of patients appropriately treated.

This section focuses on the last of these kinds of technological change. Although the first two are important to develop appropriate physician payment policies, they are more relevant to refining the Medicare Fee Schedule than to determining performance standards. The fee associated with each procedure code in the Medicare Fee Schedule is designed to reflect the value of inputs that go into the production of that service. If either the amount of physician effort or the amount of nonphysician resources changes due to a technological innovation, it is most appropriate to address this by revising the fee for that procedure.[10] This can be done either on an ad hoc basis by the Secretary or periodically when the entire fee schedule is revised.[11]

Technological change may affect service volume in three ways. The first, and perhaps the least common way, is represented by a new service that is used in situations where, previously, little or no medical treatment was employed. One example of this would be the development and use of kidney dialysis. Previous to that, there was no effective treatment for patients with end-stage renal disease.

---

[10] A large change in fee may affect the size of the performance standards. If, for example, a new technology halved the cost of providing a common Medicare procedure, this should have a corresponding effect on the standards. Rather than putting this in the technology category, is it probably better categorized as another factor judged to be appropriate by the Secretary.

[11] OBRA89 states that the Secretary must review the relative values established as part of the Medicare Fee Schedule at least every 5 years. Furthermore, the Secretary can adjust individual relative values "to take into account changes in medical practice, coding changes, new data on relative value components, or the addition of new procedures."

Second, a new technology can substitute for an old one. An example of this would be lithotripsy, which for many patients replaces a major surgical procedure. In such instances, overall expenditures may either increase or decrease. This would depend on such factors as the relative cost of the old and new procedures, any indirect effects on service volume, the number of patients to whom the new technology can be applied, and the degree to which the new service substitutes for existing ones.

Third, an improvement in the production of an existing service can increase the number of people who can benefit from it. For example, advances in artificial knee joints increased the number of persons who would benefit from a replacement of an arthritic knee. Advances in anesthesia techniques have increased the numbers of patients who can safely undergo many kinds of surgical procedures, increasing the volume of surgery and associated anesthesia services.

There are two issues involved in adjusting performance standards to reflect changes in technology. One is developing ways to quantify annual technological growth, and the other is assessing the degree to which this growth ought to be reflected in the standards. Because the two are related--performance standards require policymakers to consider how quickly technologies that are effective but costly should grow--they are considered together here.

Adjusting performance standards to reflect technological change is, at best, an inexact process. There is no single best measure of technological change, and all measures are subject to various criticisms. Several organizations (for example, the Institute of Medicine's Council on Health Care Technology, the Office of Technology Assessment, the Agency for Health Care Policy and Research's (AHCPR) Office of Health Care Technology Assessment) have been involved in the investigation of the impacts of specific technologies. None, however, produces the type of information on the impacts of technology that is needed for computing annual performance standards. The organization with the responsibility that most closely parallels that involved in computing performance standards is the Prospective Payment Assessment Commission (ProPAC).

Each year, as part of its process for developing recommendations for updates in hospital payments, ProPAC reviews how changing technologies affect inpatient hospital costs. It first identifies new and existing technologies that are most likely to affect costs and uses existing literature and medical experts to estimate the magnitude of these effects. One of the products of this work is the computation of a factor that is used to increase hospital payment rates to reflect technological change. This factor, however, is based on quantitative methods supported by "informed judgment as to the appropriate level of financing for technology advancement" (ProPAC, 1988).

The Commission plans to adopt a similar process as part of its role in developing annual VPS recommendations. A list of new and existing[12] technologies that are expected to affect the amounts and kinds of physicians' services provided will be compiled each year. Estimates of their effects on the volume and cost of Medicare physician services can then be made through a literature review and in consultation with an expert panel. The Commission's task, however, is even more difficult than ProPAC's and involves additional steps. Whereas ProPAC needs to estimate the impact of technologies on the unit cost of a hospital admission, the Commission must estimate the effects of technology changes on both costs per service or procedure and the number of services or procedures provided to all Medicare beneficiaries.

Under the VPS system, the cost-effectiveness of new and existing technologies becomes an essential component of the annual process of setting performance standards. The extent to which technology-driven expenditure increases are judged to be cost-effective involves subjective assessments. From the patient's perspective, technological progress can result in higher quality care, access to services that were previously not available or affordable, and better health outcomes. However, new technologies sometimes increase costs but provide only marginal health benefits. Furthermore, they may rapidly diffuse before their effectiveness is demonstrated.

The process of weighing the benefits and costs of new technologies obviously will be difficult and subject to a great degree of uncertainty. The Commission will seek advice from all interested parties, including consumers, who ultimately bear the medical and financial consequences of technological change.

Access to Appropriate Care

Of the factors to be considered by the Secretary when establishing performance standards, the three already discussed--prices, the Medicare population, and technology--are specified in terms of their year-to-year changes. Thus, the Secretary is directed to measure these changes and to consider them in establishing recommendations for the size of annual performance standards.

The two other specific factors listed in the legislation--inappropriate utilization and lack of access to necessary services--are not defined in terms of year-to-year changes. The current extent of inappropriate care and lack of access are to be considered in developing performance standards. The existence of inappropriate services implies that performance standards should not be set as high as called for by considering only inflation and changes in the beneficiary population and technology. But access problems may indicate that they should be set at higher levels.

---

[12] Existing technologies that have not fully diffused throughout medical practice would also be candidates for further examination.

Inappropriate Utilization. There is compelling evidence to indicate that there is inappropriate use of a variety of medical procedures and services.[13] Much of this evidence comes from small area analysis of physician practice patterns (Chassin et al., 1986; Wennberg and Gittelsohn, 1982). This research demonstrates marked variations in per capita hospitalization for medical and surgical conditions.

Analysis of inappropriate use is closely tied to technology assessment and beneficiary access issues. For example, what might appear to be inappropriate utilization could in fact reflect lack of access to the appropriate technology or medical facility. Conversely, the overuse of new technology, perhaps driven partly by payment incentives, could induce inappropriate utilization as well. Thus, quantifying the appropriate rate of growth in utilization is especially difficult.

A recent analysis of the literature on the appropriateness of medical care provided to the elderly, conducted by researchers at the RAND Corporation, concluded that virtually every previous study found substantial levels of inappropriate usage.[14] At the same time, however, the RAND review also found evidence of underuse or incorrect use of services. This was particularly common in ambulatory care for treatment of chronic mental or physical conditions and for the low-cost services associated with them, such as visits, preventive services, and some medications. Unfortunately, as the authors point out, the amount and quality of the available literature on appropriateness is so limited that firm conclusions about the net amount of inappropriate care are not currently feasible.

Major initiatives to study the effectiveness and appropriateness of medical services and procedures are under way (Chapter 14). The primary one is the establishment under OBRA89 of AHCPR. The new agency will have major responsibilities for assessing the effectiveness of medical care interventions. In carrying out these tasks, AHCPR is expected to work with other federal organizations--for example, HCFA, the Food and Drug Administration, and the Veterans Administration--to help focus clinical research as well as analyses of practice patterns and medical outcomes. AHCPR is also specifically charged with supporting the development of practice guidelines. The dissemination and use of such guidelines will be of great help both in assessing the degree of inappropriate utilization and in providing physicians with the information they need to reduce its extent.

---

[13] Utilization review involves the identification of inappropriate billing practices as well as the inappropriate use of services. Thus, while the discussion here focuses on problems in the actual use of Medicare services, it will also be important to consider the extent to which Medicare expenditures may reflect undetected problems in bills resulting from inadvertent or intentional miscoding of services, or unnecessary use of services designed to maximize payment. For example, one private sector utilization review executive recently estimated that about 5 percent of all physician charges reflect unbundled or double billed services (*Wall Street Journal*, 1989).

[14] Summarizing their findings, the researchers stated that studies "that looked at overuse in the hospital--of procedures or of medications--found evidence of overuse in amounts that are too large to be ignored. In particular, perhaps as much as one-fifth to one-quarter of acute care hospital services or procedures were felt to be used for equivocal or inappropriate reasons . . ." (Brook et al., 1989).

At this time, the Commission believes that existing evidence supports an assumption that some of the services provided to Medicare beneficiaries are of little or no medical value. Volume Performance Standards should reflect this assumption. A serious commitment on the part of physician community to using existing guidelines and the incorporation of these guidelines into review protocols could substantially reduce the inappropriate use of services.[15] [16]

Determining precisely how to refine performance standards in light of growing information on inappropriate utilization is difficult, however. Evidence of inappropriate utilization for specific procedures cannot automatically be translated into equivalent reductions in performance standards. Physicians and reviewers must have good information on how and when services should be used, and must incorporate this knowledge into practice. Otherwise, efforts to eliminate inappropriate services and procedures may unintentionally reduce quality or access to care. Because this information is only beginning to become available, judgments about the rate at which we can expect to reduce overall levels of inappropriate services must be made in the context of access and quality of care. These judgments can then reflect expectations of a reduction in inappropriate services over time.[17]

Lack of Access to Necessary Services. OBRA89 requires monitoring beneficiary access on an ongoing basis. The goal of the VPS system is to control costs while maintaining access to appropriate care. Access problems could arise if fee updates do not keep pace with those in the private sector, resulting in some physicians choosing to limit their services to Medicare patients. This could happen if performance standards are set by the Congress at unrealistically low levels.

If the performance standards are set at reasonable levels, there should be no overall threat to patient access. Once the standards are set, fee levels are determined largely by increases in the volume of services provided. Thus, if fee increases are low, this will be the result of high volume, presumably reflecting enhanced patient access to care, at least for the typical beneficiary.

---

[15] Examples of practice guidelines include those developed by organizations the American College of Cardiology and American Heart Association Task Force on Assessment of Cardiovascular Procedures (1987), the American Academy of Ophthalmology (1988), and the indications for use of specific procedures developed by the RAND Corporation (Brook et al., 1986; Chassin et al., 1986a; Chassin et al., 1986b).

[16] For example, the General Accounting Office (GAO) recently reported the results of applying guidelines based on the RAND criteria for coronary angiography to a 1987 sample of Medicare cases previously reviewed by Peer Review Organizations. The study found that about 20 percent of the procedures were inappropriate, a finding consistent with the results of other RAND reviews cited above. Projected to the Medicare population, this would amount to about $300 million in unnecessary services for this single procedure (GAO, 1989).

[17] The gradual increase in the volume performance factor from 0.5 to 2 percent by 1993, which represents the amount by which historical volume increases are to be reduced in computing default VPSs, is consistent with this approach.

Nevertheless, for purposes of setting performance standards, access to care should be defined broadly. This would include consideration of differential effects on vulnerable subpopulations (the poor, frail elderly, seriously ill beneficiaries, and so on), and on specific categories of Medicare physician services (evaluation and management services, laboratory tests, surgery, and emergency room care). At the same time, however, it will also be necessary to monitor wider effects on the health care system as a whole, such as how the VPS system affects the care provided to the non-Medicare population.

The Commission outlined a strategy for monitoring access to care under the Medicare Fee Schedule in its 1989 report to the Congress. To summarize briefly, it urged that data from recent national surveys such as the National Medical Expenditure Survey (1987), the National Ambulatory Medical Care Survey (1989), and the continuous Health Interview Survey be used to establish baseline information on beneficiary access to Medicare services. In addition, analyses of baseline data on use of services, geographic variations, differences among population groups, assignment rates and balance billing, and temporal trends could be computed from 1986-1988 Part B Medicare Annual Data (BMAD). After payment reform is implemented, changes from the baseline trends could be closely monitored so that recommendations for refinements to the payment system could be implemented as necessary.

For many of the indicators of access to care identified in the Commission's 1989 report, however, additional data collection will be necessary. The most efficient means of ascertaining accurate and generalizable information on access will be the Current Beneficiary Survey, which is to be carried out by HCFA's Office of the Actuary. This survey will collect data on demographic characteristics, financial resources, out-of-pocket costs, health status, and barriers to access unavailable in claims data.

Finally, the 1989 report called for establishing a feedback process that would allow interested groups, including both beneficiaries and providers, to review available data and to present to the Commission any additional information that should be considered in assessing access to care.

This same strategy is appropriate for setting performance standards. Initial performance standards will reflect baseline access levels. The goal is to move toward more appropriate use of services without harming access to needed care. The process of setting performance standards should therefore include the continuous assessment of access, together with the assessment of the appropriateness of medical treatments provided to beneficiaries.

Much of this analysis is specified in detail in OBRA89 (Chapter 14). Various provisions of the law require HHS to monitor the utilization of and access to services within geographic regions, populations, and service-related categories. The legislation also calls for monitoring physician participation and assignment rates. Each year, the Secretary is required to submit a report that addresses problems of beneficiary access to care as well as a wide range of other utilization issues.

The Commission is required to comment on the Secretary's report. To do so, the legislation specifies that the Commission convene and consult a panel of physician experts to evaluate the implications of medical utilization patterns for the quality of and access to patient care. The Commission will support the panel's deliberations with analyses and through additional studies of Medicare data, such as HCFA's Common Working File (CWF) and Current Beneficiary Survey.

The Commission is also charged with evaluating the Secretary's recommendations on performance standards. This panel will also review evidence on the effects of technology, as well as the extent of inappropriate utilization. The panel therefore will include not only physicians, but health services researchers and consumers as well.

Other Factors

The Secretary is to consider other factors judged to be appropriate to setting performance standards. Two considered here are changes in Medicare benefits and trends in medical care needs.

The volume of Medicare services is likely to be affected when there are modifications in the services covered by the program. There are two ways in which the benefits available to program beneficiaries can change: by modifying patient cost-sharing provisions and by altering the number or type of covered services. Because modifications in Medicare benefits are designed to affect either the quantity or distribution of services provided to beneficiaries, it would seem appropriate that their effect on utilization be reflected in setting performance standards.

Calculating these effects, however, is difficult in part because there are few reliable data sources on the use and costs of medical care services among the elderly. The availability of data from an ongoing survey of beneficiaries, such as the Current Beneficiary Survey, will make the estimates more accurate. Nevertheless, there will always be considerable uncertainty about the cost of new Medicare benefits, both because data on current rates of use are seldom available and because coverage is expected to increase service usage.[18] One way to deal with this uncertainty would be to alter the conversion factor for a particular year when there is evidence that previous estimates of the effects of changes in Medicare benefits were in error.

---

[18] This problem is illustrated by the unexpected rise in Part A expenditures associated with changes in skilled nursing home benefits, which was probably intensified by recent changes in HCFA guidelines that clarified the circumstances under which a nursing home stay would qualify for coverage. Changes in benefits and in their interpretation can affect utilization, and therefore would need to be considered when updating the standards.

Medical care needs also are likely to change over time. The increasing incidence of some diseases like AIDs or chronically disabling conditions like Alzheimer's disease might justify higher performance standards. Conversely, lower prevalence of some diseases such as cardiovascular problems, stroke, or lung cancer might warrant a lower performance standard.

Two sources of data could be used to identify changes in disease patterns. The Centers for Disease Control monitors epidemiological data for a number of diseases and conditions. Coupled with estimates of utilization for particular diseases, this information could be used to adjust performance standards for changes in the health status of the Medicare population. In addition, once HCFA's Common Working File is in place, it will be possible to track specific diagnoses, and simultaneously, to determine the volume and expenditures associated with them.

THE SCOPE OF SERVICES COVERED BY VOLUME PERFORMANCE STANDARDS

Under OBRA89, the services to be included in the establishment of annual performance standards are:

> "physicians' services" includ[ing] other items and services (such as clinical diagnostic laboratory tests and radiology services), specified by the Secretary, that are commonly performed or furnished by a physician or in a physician's office . . ." [19]

Claims for some of these services, however, while paid for under Part B of Medicare, currently are not processed by carriers. Most importantly, claims for diagnostic X-rays and laboratory tests performed in hospital outpatient departments are processed by fiscal intermediaries. The intermediary data on the use of outpatient services provided under Part B does not currently allow for separately identifying diagnostic X-ray and laboratory services from other Part B outpatient services paid by intermediaries. Therefore, these services cannot be included in the initial performance standards.

Some Part B services that are paid by carriers also are not included in the performance standards. These include durable medical equipment (DME), ambulance services, and services furnished by ambulatory surgical centers (ASC). These services are not included because they are not commonly furnished by a physician or in physicians' offices.

---

[19] For purposes of this discussion, physicians' services include those performed by all practitioners who are defined as physicians under the Medicare law.

In the future, it would be possible to expand the list of services included in setting performance standards.[20] There are at least four ways in which this could be accomplished:

- adding diagnostic X-ray and laboratory tests paid by intermediaries once they can be separately identified;
- including all physicians' services currently paid for by intermediaries;
- expanding the definition of services to include other Part B services such as DME, ASCs, and/or ambulance services; and
- expanding the definition of services to include Part A inpatient services.

The primary reason for expanding the scope of services included in Volume Performance Standards would be to account for the fact that physicians are responsible for prescribing or recommending services that are not included under the present standards. This could allow physicians more flexibility in devising ways to meet targeted growth rates. For example, if diagnostic laboratory tests performed in hospital outpatient departments were included in performance standards, physicians would have the same incentives to control the use of these services as they would tests in performed in their own offices or referred to independent laboratories.

The scope of services included in the establishment of performance standards could even be expanded to include inpatient services. Hospital admissions account for a large proportion of total Medicare expenditures. Small reductions in admission rates could result in substantial program savings even if, as a result, Part B expenditures increase from the growth of outpatient service use. Thus, a broader performance standard could provide incentives for more efficient use of Medicare services across all settings.

With the completion of the CWF, there will be few technical impediments to expanding the scope of services included in the performance standards. When there are two years of complete data are available from the file, it will be possible to calculate accurate and timely growth rates for an expanded set of services.

However, physician organizations, carriers, Peer Review Organizations, and other interested bodies should first develop some experience with the current VPS system before the scope of services is expanded. Implementation of VPSs will represent a major change in the responsibilities of these organizations. They should be given the opportunity to develop and implement a strategy for dealing with their current tasks before they face an even larger task of responding to a system that includes additional services.

---

[20] The Secretary of HHS is required to report to Congress on the scope of services to be included in setting Volume Performance Standards by July 1, 1990.

For now, the Commission believes that the scope of services included in the VPS system should not be expanded. However, as experience with the current VPS system increases and data systems improve, consideration will be given to the feasibility and desirability of: (1) incorporating additional Part B services into the VPS system, and (2) establishing a combined performance standard for Part A and Part B services.

REFERENCES

American Academy of Ophthalmology, *Quality of Ophthalmic Care: Comprehensive Adult Eye Evaluation Preferred Practice Pattern*, San Francisco, October 1988.

American College of Cardiology/American Heart Association Task Force on Assessment of Cardiovascular Procedures, "Guidelines for Coronary Angiography," *Journal of the American College of Cardiology* 10(4):935-50, 1987.

Brook, R.H., M.R. Chassin, A. Fink, et al., "A Method for Detailed Assessment of the Appropriateness of Medical Technologies," *International Journal of Technology Assessment on Health Care* 2(1):53-63, 1986.

Brook, R., Kamberg, C., Mayer-Oakes, A. et al., *Appropriateness of Acute Medical Care for the Elderly: An Analysis of the Literature,* R-3717-AARP/HF/RWJ/RC, Santa Monica, CA: The Rand Corporation, September, 1989.

Chassin, M.R., J. Kosecoff, R. A. Park, et al., *Indications for Selected Medical and Surgical Procedures: A Literature Review and Ratings of Appropriateness: Coronary Angiography,* R-3204/1-CWF-HF-HCFA-PMT-RWJ, Santa Monica, CA: The Rand Corporation, 1986a.

Chassin, M.R., R.E. Park, A. Fink, et al., *Indications for Selected Medical and Surgical Procedures: A Literature Review and Ratings of Appropriateness: Coronary Artery Bypass Surgery*, R-3204/2-CWF-HF-HCFA-PMT-RWJ, Santa Monica, CA: The Rand Corporation, 1986b.

Chassin, M.R., R.H. Brook, R. A. Park, et al., "Variations in the Use of Medical and Surgical Services by the Medicare Population," *New England Journal of Medicine* 314:285-290, 1986.

Dutton, B., and P. McMenamin, "The Medicare Economic Index: Its Background and Beginnings," *Health Care Financing Review* 3(1), September 1981.

Fuchs, V.R., "'Though Much Is Taken': Reflections on Aging, Health, and Medical Care," *Milbank Memorial Fund Quarterly* 62(2), Spring 1984.

Fuchs, V.R., *Who Shall Live?,* New York: Basic Books, 1974.

Health Care Financing Administration, *Reports to Congress: Medicare Physician Payment,"* HCFA Pub. No. 03287, Washington, D.C., October 1989.

"How Doctors Boost Bills by Misrepresenting the Work They Do," *Wall Street Journal*, December 6, 1989.

Merrick, N.J., A. Fink, R.H. Brook, et al., *Indications for Selected Medical and Surgical Procedures: A Literature Review and Ratings of Appropriateness: Carotid Endarterectomy,* R-3204/6-CWF-HF-HCFA-PMT-RWJ, Santa Monica, CA: The Rand Corporation, 1986.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989,* Washington, D.C., 1989.

Prospective Payment Assessment Commission (ProPAC), *Technical Appendixes to the Report and Recommendations to the Secretary, U.S. Department of Health and Human Services,* Washington, D.C., March 1, 1988.

U.S. General Accounting Office (GAO), *Medicare: Improvements Needed in the Identification of Inappropriate Hospital Care,* GAO/PEMD-90-7, Washington, D.C., December 1989.

Wennberg, J.E. and A. Gittelsohn, "Variations in Medical Care Among Small Areas," *Scientific American* 246:120-133, 1982.

CHAPTER 12

SUBNATIONAL VOLUME PERFORMANCE STANDARDS

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) requires the Secretary of Health and Human Services (HHS) to recommend separate Volume Performance Standards (VPSs) for surgical and nonsurgical services by April 15 of each year. The Secretary must also publish a definition of surgical services no later than May 1, 1990, after consulting with organizations representing physicians.

OBRA89 also gives the Secretary the option to recommend separate VPSs for other categories of service. By July 1, 1990, the Secretary must publish a study of the feasibility and desirability of setting separate VPS rates of increase by geographic area, by specialty or group of specialties, or by type of service.

This chapter examines conceptual and technical issues related to defining, setting, and updating subnational VPSs.

RECOMMENDATIONS

> **Subnational VPSs for broad specialty or service designations, such as surgery, should be evaluated carefully before they are made a permanent part of the Medicare VPSs system. Subnational VPSs for specific subspecialties or narrow categories of services should not be implemented.**
>
> **The establishment of state-level or other geographic VPSs should await further analysis, as well as experience with the national VPS system.**

The VPS policy seeks to slow the rate of growth in Medicare expenditures through changes in medical practice. The long-term impact of VPSs will depend upon the reaction of the physician community to the collective incentive that the VPSs create. To the degree that the physician community responds to this incentive, budget savings can be achieved by reducing growth in the volume of services, presumably by eliminating services of little or no benefit to the patient. If there is no positive response, budget savings will be achieved, as in the past, solely by reducing the growth in fee levels.

Under a national VPS, physicians have an incentive to act in concert to control volume growth. However, the incentive for independent initiative on the part of smaller groups of physicians, such as specialty societies or local medical societies, is diluted. With a national VPS, each group of physicians is effectively held accountable for the average volume growth across the country, even though that group may be able to influence only the volume of care provided by its members.

A subnational VPS system can partition total Medicare expenditures in order to provide stronger incentives for various groups of physicians. A proper structuring of a subnational VPS system would focus the collective incentive for volume control on smaller, more cohesive, better organized groups of physicians that are more likely to be able to influence the practice patterns of their members. This can lead to a better match between the accountability for and the ability to influence volume growth.

Because education and peer review are the principal channels for changing physician practice patterns, two different subnational VPS systems are likely candidates. First, since medical education -- including producing and disseminating practice guidelines -- is largely the province of specialty societies, VPSs by specialty are one clear option for a subnational VPS system. Second, since many medical societies and most of the infrastructure for peer review follow state boundaries, a VPS for all physicians within a state would be another natural choice for a subnational VPS system.

While other types of VPS systems are possible, states and specialty organizations are the principal instances in which a well-defined, relatively cohesive groups of physicians has an organizational structure or administrative channel through which to influence physician behavior. VPSs along state or specialty lines would give these groups of physicians concordant professional and financial incentives to work through the existing infrastructure to reduce the volume of inappropriate services and procedures.

A STATE VPS SYSTEM

Conceptually, a system of a separate VPSs for each state has several advantages. First, a state VPS system would parcel out responsibility for Medicare Part B volume growth in a clear and consistent manner. Physicians within each state would be responsible for that state's growth in volume. Second, the physician community could use the existing channels of peer review to constrain growth in the volume of care. Finally, setting standards in the long run would involve only general comparisons of the volume of services per beneficiary across states. It would not entail explicit assessment of the trade-offs among surgical and medical treatment modes.

From a practical viewpoint, however, a state VPS system has several drawbacks. First, existing data sources probably are not accurate enough to set credible state VPSs.

Medicare Part B expenditures tabulated by state show implausibly large year-to-year fluctuations. Second, establishing the level of each state's VPS could be a politically contentious process. Unlike the existing Part B payment system, state VPSs would involve explicitly allocating Medicare payments among the states. Finally, persistent differences in volume increases among states could eventually lead to differences in fee levels across states that would not correspond to geographic differences in practice costs.

These practical problems led the Commission to suggest that decisions regarding the implementation of a state VPS system be delayed at least until the accuracy and consistency of state-level expenditure data can be fully assessed. Until then, further work should be done to evaluate the desirability and feasibility of a state VPS system.

Conceptual Issues in a State VPS System

The choice of the state as a geographic unit for a subnational VPS system is suggested by the structure of the existing peer review process and the organization of medical societies. The Part B carriers that process Medicare claims are primarily state-level organizations. Medicare's contracts with Peer Review Organizations (PROs)[1] are generally held by in-state, physician-organized groups. The licensure and professional discipline of physicians is a responsibility of boards established by state governments. Each state has a medical society that represents the interests of physicians in that state and provides a conduit for interaction and peer influence among physicians.[2] Many specialty societies have both a state and national organizational structure. Separate VPSs by state would give physicians the fiscal incentive to work through the carriers, PROs, state boards, and state medical societies to find ways to control the growth of medical care volume.

The technical task of establishing and updating a state VPS system could be directed by some comparatively simple benchmarks. Each state's VPS would cover that state's Medicare expenditures and all Medicare expenditures would be accounted for in some state. Setting the long-term level of each state's VPS would involve only relatively general judgments about medical practice, for example, whether states with extremely high or low utilization per capita should receive different updates than the rest of the country.

The political task of setting state VPSs is considerably less straightforward, however. An increase in a state's VPS would ultimately generate a net inflow of federal funds. Because states are political entities, any explicit method for allocating the national pool of funds is likely to be contested through the political process.

---

[1] PROs currently review care provided to beneficiaries in a variety of settings, including hospitals, ambulatory surgical centers, home health agencies, and skilled nursing facilities, as well as care provided by health maintenance organizations with Medicare risk contracts.

[2] The administrative and organizational ability of state medical societies varies greatly, however, and in some states, specialty associations may play a more effective role than the state medical society.

State VPSs might be approached more quickly and less contentiously through a program of waivers for states that pursue broad policies to contain costs, such as all-payer mechanisms. This would permit states to base all payments to physicians on physicians' success in containing expenditure growth.

Finally, some international experiences also suggest that a state-oriented approach has advantages. Canadian and West German experts stress the importance of decentralizing accountability for expenditures to subnational regions. In both countries, prospective budgets are established on a regional basis; the physician community within each region negotiates fee levels and annual expenditure limits with the payer. In some instances, the physician organization itself disburses the funds.[3]

Technical Issues in a State VPS System

Establishing and updating a system of state VPSs would require three key technical decisions. The first is how the VPSs will be set in the short run, including how existing expenditure levels will be measured. The second is how rapidly fees will be adjusted as expenditures exceed or fall short of the VPSs. The third is how the VPSs will be set over the longer term, including the extent to which the VPSs reflect factors other than historical expenditures.

With regard to measuring current expenditure levels, existing state data probably are not accurate or consistent enough for establishing payment rates at the state level, even retrospectively. Table 12-1 shows considerable yearly variation in the growth of reported Part B expenditures by state. These large year-to-year changes in reported total Part B payments follow a clear "seesaw" pattern, with high-growth years followed by low-growth years and vice versa. Since claims historically have been tabulated on the basis of payment date, this pattern may result from variation in the processing of year-end claims. The volatile nature of the reported data makes it difficult to determine existing expenditure levels in each state.

Other sources of state Part B expenditure data probably are not sufficiently timely and consistent for rate setting purposes. The Part B Medicare Annual Data files (BMAD) summarize claims incurred between 1985 and 1988. Because BMAD files are not integral to normal claims processing, their completeness and accuracy have varied considerably, both over time and across carriers. Summaries of payment records (PRs) by date of service have been tabulated by carrier on an experimental basis for 1986 to 1988. While the PRs are part of routine data processing, these tabulations also show large annual fluctuations in yearly expenditures by state.

---

[3] Appendix D, on the health care systems of Canada and West Germany, provides a detailed analysis of these points.

Table 12-1. Reported Yearly Expenditure Growth is Highly Variable

Growth in Part B Expenditures Per Beneficiary, 1981-1987

Annual Growth Rate in Percent

State	81-82	82-83	83-84	84-85	85-86	86-87	Average 81-87
USA	**17.0**	**16.9**	**8.1**	**15.2**	**13.5**	**14.2**	**14.1**
Alabama	11.3	17.0	-3.1	* 25.5	24.5	15.7	14.8
Alaska	-	-	-	-	6.4	10.5	-
Arizona	10.7	14.5	-3.9	* 32.6	* 6.8	12.0	11.6
Arkansas	15.8	16.4	6.9	12.5	13.9	14.4	13.3
California	14.1	17.2	5.0	15.9	9.4	6.9	11.3
Colorado	41.7	* -2.0	4.9	13.3	-	-	-
Connecticut	14.2	14.2	10.1	10.9	13.2	11.4	12.3
Delaware	21.3	9.0	12.1	17.5	9.1	13.3	13.6
District of Columbia	25.4	9.6	7.6	15.7	20.6	2.5	13.3
Florida	17.6	15.2	11.8	9.6	-	-	-
Georgia	9.3	26.9	* 3.0	22.9	14.5	13.2	14.7
Hawaii	-	-	-	-	-	-	-
Idaho	16.6	20.7	3.7	16.9	21.6	13.5	15.4
Illinois	11.9	22.9	* 1.2	* 32.6	-	-	-
Indiana	15.8	17.5	12.4	1.6	-	-	-
Iowa	29.7	17.7	11.9	19.9	-8.0	* 35.7	16.9
Kansas	13.5	3.3	* 34.9	* 4.6	-	-	-
Kentucky	11.8	-1.2	* 36.5	* -0.0	* 43.2	19.3	17.1
Louisiana	-1.3	* 27.1	* -2.7	* 55.0	* 34.1	24.0	21.1
Maine	14.8	14.6	5.2	-5.5	* 24.2	24.2	12.4
Maryland	22.6	17.4	9.4	17.3	13.1	7.4	14.4
Massachusetts	15.3	14.0	11.7	11.3	* 48.1	*-19.4	11.8
Michigan	20.5	9.6	9.5	17.9	18.4	4.3	13.2
Minnesota	13.1	17.8	11.7	18.5	* -5.9	-1.7	8.5
Mississippi	12.7	24.0	* 3.0	17.3	0.9	* 46.6	16.5
Missouri	1.3	5.6	* 62.6	* 0.7	19.0	14.2	15.5
Montana	12.2	15.8	6.0	15.6	21.3	6.6	12.8
Nebraska	18.1	19.2	6.6	0.6	-8.7	* 60.6	14.2
Nevada	14.2	8.0	6.0	16.7	6.1	6.8	9.6
New Hampshire	18.1	12.1	*-11.0	* 21.8	30.3	10.6	12.9
New Jersey	16.6	15.9	7.8	7.7	15.7	8.0	11.9
New Mexico	19.5	16.8	-0.8	11.7	17.6	3.7	11.1
New York	17.5	16.2	12.5	10.9	-3.5	* 33.9	14.1
North Carolina	9.6	25.6	* 1.3	18.7	15.1	17.8	14.4
North Dakota	13.4	11.3	11.9	15.9	10.8	6.7	11.6
Ohio	20.4	18.5	5.5	18.6	19.5	17.8	16.6
Oklahoma	17.1	13.8	3.1	5.0	* 36.0	17.6	15.0

Table 12-1. - Continued

Annual Growth Rate in Percent

State	81-82	82-83	83-84	84-85	85-86	86-87	Average 81-87
Oregon	7.7	15.8	3.4	* 30.1	* 1.6	3.4	9.9
Pennsylvania	22.7	18.9	12.6	18.0	10.3	17.6	16.6
Rhode Island	24.5	* 0.5	5.2	* 35.8	* 0.3	-10.7	8.2
South Carolina	14.1	3.8	2.8	* 26.8	* -7.3	* 40.2	12.3
South Dakota	13.6	12.0	9.1	16.1	17.8	8.3	12.8
Tennessee	20.3	20.1	1.9	16.9	28.2	8.6	15.7
Texas	34.8	28.2	* -5.6	10.8	21.8	14.0	16.6
Utah	10.6	14.6	8.4	15.0	10.9	18.6	13.0
Vermont	17.9	11.7	-7.3	* 15.5	26.0	19.8	13.4
Virginia	13.9	21.8	7.8	13.7	12.6	12.9	13.7
Washington	16.1	19.5	5.9	16.5	4.5	* 38.7	16.3
West Virginia	17.1	17.3	14.0	16.4	19.1	14.1	16.3
Wisconsin	19.2	19.8	6.5	16.5	9.1	10.4	13.5
Wyoming	13.1	20.6	3.4	15.1	15.9	18.0	14.2

Source: PPRC analysis of the Medicare AAPCC Master file. Data for 1986 and 1987 provided by the Congressional Research Service (U.S. Congress, 1989).

Notes:
a) - Missing data
b) * Growth rate changes by more than 20 percentage points from one year to the next.

The timeliness and accuracy of claims reporting is likely to improve in the future. First, OBRA89 requires physicians to submit all claims directly. This will reduce the lag between the date of service and when the claim is submitted. Second, the existing PR claims reporting system is being replaced by a more streamlined system, the Common Working File (CWF). This should further reduce yearly reporting variability across carriers.[4] Finally, the Omnibus Budget Reconciliation Act of 1987 (OBRA87) required the Health Care Financing Administration (HCFA) to generate national tabulations of claims by date of service. With this system in place, it should soon be possible to obtain routinely more detailed tabulations of data by date of service.

As for the second technical question, the rate at which fees should be adjusted, the data suggest that a limit be established on the magnitude of the annual variation in the update. Annual expenditure fluctuations are far too large to be factored fully into each year's fee

---

[4] Currently, the CWF has replaced the PR system for about half of all claims submissions, and will fully replace the PR system starting in FY 1991. With the PR system, HCFA receives a brief summary of payment information after the claim is paid, making the correction of inaccurate data submissions a relatively low priority for the carrier. With the CWF, payment is made only after the claim is certified correct by certain host sites (carriers), that then transmit very detailed claim information to HCFA.

As for the second technical question, the rate at which fees should be adjusted, the data suggest that a limit be established on the magnitude of the annual variation in the update. Annual expenditure fluctuations are far too large to be factored fully into each year's fee update. The most direct method for smoothing the annual changes in fees is to limit the extent to which fees in any state may be raised or lowered relative to the average fee update.[5] Improved data reporting might eliminate much of the annual variation in reported expenditures shown here. However, a limit on the magnitude of annual changes in fees might still be needed to prevent unreasonable yearly changes in fees, while allowing the impact of persistent trends to affect fee updates.[6]

Finally, regarding setting the VPSs over the long term, the data suggest that it may be inequitable to establish standards based solely on the existing pattern of expenditures across states. There was considerable variation in the growth of expenditures across states during the 1981 to 1987 period (Table 12-2).[7] Louisiana showed the most rapid growth in per-beneficiary expenditures, averaging 6.1 percentage points per year higher than the United States as a whole. Per-beneficiary expenditures in Rhode Island grew at the slowest rate, averaging 5.2 percentage points per year less than the national average.

The experience of these states reflects a general trend in Part B expenditures per beneficiary. On average, states starting the decade with high levels of expenditure experienced significantly slower expenditure growth. Statistical analysis conducted by Commission staff demonstrates that growth rates in states whose 1981 expenditures were 25 percent below the national mean averaged 1 percentage point above the national growth rate. A similar analysis using volume (expenditures adjusted for prices) showed an even more pronounced trend. States with volumes 25 percent below the national average in 1981 had mean expenditure growth almost 2 percentage points above the national average.[8]

---

[5] For example, fee updates in every state might be required to be within 3 percentage points of the U.S. average fee update.

[6] The extreme size of the annual fluctuations, sometimes as high as 40 percent, would seem to rule out the use of a moving average to smooth fee changes. Averaging in even a small portion of such a change could produce substantial transient movements in fees.

[7] Over this seven-year period, short-run reporting fluctuations due to year-end claims processing largely average out, leaving mostly differences in the general trend rate of growth of expenditures. These figures are not adjusted for heath maintenance organization (HMO) enrollment growth, and so should be viewed with caution, particularly in states with relatively high Medicare HMO enrollment.

[8] Expenditure growth (1981-1987) was regressed on growth in the over-85 population and 1981 per capita expenditures (or volume). Expenditure (or volume) in 1981 was a statistically significant determinant of expenditure growth, accounting for approximately 20 percent of the variation in expenditure growth across states. This inverse correlation was estimated several ways, over different spans of time and using different base year periods to demonstrate that it was not an artifact of the data reporting problems discussed above.

Table 12-2. Long Run Rates of Growth Differ Across States

Growth in Part B Expenditures Per Beneficiary by State Compared to U.S. Part B Expenditure Growth

State	Average Annual Growth In Percent, 1981-1987	Percent Difference Between State and National Annual Expenditure Growth
USA	14.1	0.0
Alabama	14.8	0.6
Alaska	-	-
Arizona	11.6	-2.2
Arkansas	13.3	-0.7
California	11.3	-2.4
Colorado	-	-
Connecticut	12.3	-1.5
Delaware	13.6	-0.4
District of Columbia	13.3	-0.7
Florida	-	-
Georgia	14.7	0.5
Hawaii	-	-
Idaho	15.4	1.1
Illinois	-	-
Indiana	-	-
Iowa	16.9	2.5
Kansas	-	-
Kentucky	17.1	2.6
Louisiana	21.1	6.1
Maine	12.4	-1.5
Maryland	14.4	0.3
Massachusetts	11.8	-2.0
Michigan	13.2	-0.8
Minnesota	8.5	-4.9
Mississippi	16.5	2.1
Missouri	15.5	1.3
Montana	12.8	-1.2
Nebraska	14.2	0.1
Nevada	9.6	-4.0
New Hampshire	12.9	-1.1
New Jersey	11.9	-2.0
New Mexico	11.1	-2.6
New York	14.1	-0.0
North Carolina	14.4	0.3
North Dakota	11.6	-2.2
Ohio	16.6	2.2
Oklahoma	15.0	0.7
Oregon	9.9	-3.7
Pennsylvania	16.6	2.2
Rhode Island	8.2	-5.2
South Carolina	12.3	-1.6
South Dakota	12.8	-1.2
Tennessee	15.7	1.4
Texas	16.6	2.2
Utah	13.0	-1.0
Vermont	13.4	-0.6
Virginia	13.7	-0.4

Table 12-2. - Continued

Growth in Part B Expenditures Per Beneficiary by State Compared to U.S. Part B Expenditure Growth

State	Average Annual Growth In Percent, 1981-1987	Percent Difference Between State and National Annual Expenditure Growth
Washington	16.3	2.0
West Virginia	16.3	1.9
Wisconsin	13.5	-0.5
Wyoming	14.2	0.1

Source: PPRC analysis of the Medicare AAPCC Master file. Data for 1986 and 1987 provided by the Congressional Research Service (U.S. Congress, 1989).

Note: - Missing data.

Target levels of per capita volume in a state VPS system could consist of a blend of the existing pattern of volume with some national standard. This could be implemented in either of two ways. State per capita volume standards could move toward the national average. Alternatively, each state's VPS could be based on national averages adjusted for the age and other health risk factors of its Medicare population.

This notion of blending state and national per capita volume to determine targeted rates of growth in expenditures is consistent with the current legislative mandate for the national VPS update. The legislation requires the update process to consider, among other things, the aging of the beneficiary population, evidence of inappropriate utilization, and evidence of lack of access.

One way to incorporate aging, appropriateness, and access is to begin with standards based on the risk-rating factors currently used to set Medicare health maintenance organization (HMO) payment. These factors could be used to determine an adjusted volume per beneficiary for each state, based on the U.S. average volume and the characteristics of each state's population.[9] Extremely high volume per capita, compared with the adjusted national average, could be interpreted as evidence of some inappropriate utilization.[10] Extremely low volume could indicate lack of access. Factoring these into the update formula could allow somewhat higher target rates of growth in those areas with the lowest volume per capita, similar to the pattern of expenditure growth shown in Table 12-2.

---

[9] This risk adjustment process has been argued to be inaccurate due to biased selection into HMOs. However, it may be more accurate when applied to the population of an entire state than it would if applied to the very self-selected population enrolling in an HMO.

[10] Very high rates of surgery have been argued to represent some excess use (Leape, 1989). However, studies of county-level variation have found that volume of care is not a statistically significant predictor of the proportion of care which is inappropriate (Leape et al., 1990). Perhaps equity is the more relevant justification here, since the financing mechanism for Medicare is nationally uniform.

A SPECIALTY VPS SYSTEM: SURGERY VERSUS OTHER SERVICES

VPSs for surgical services and for all other services could be established various ways. A surgical VPS could be defined in terms of specialty (surgeons), type of service (all surgery), or as a group of HCFA Common Procedure Coding System (HCPCS) codes (select surgical services). Any of these definitions could include most of the services provided by surgeons, but the definitions differ in the mix of services included under the surgical VPS.

Maintaining the surgical VPS required by OBRA89 may have disadvantages in the long run. First, differential updates may move the Medicare Fee Schedule relative values away from their existing resource-based values. Second, setting the standards requires judgment concerning the practice of medicine, particularly the relative appropriateness of and lack of access to surgical and other types of care. For these reasons, the current surgical and nonsurgical VPSs should be evaluated further before they become a permanent part of the Medicare payment system.

Conceptual Issues in a Specialty VPS System

Both short- and long-term issues are involved in establishing a specialty VPS system. OBRA89 calls for the Secretary to establish separate VPSs for surgical services and other services and to publish a definition of surgical services by May 1, 1990. Thus, the immediate issue is how to develop a VPS for surgeons by targeting expenditures for surgical services. In the longer run, however, additional VPSs may be established beyond the surgical/nonsurgical categories.

The appeal of specialty-based VPSs lies in how specialty societies influence clinical practice. These societies, which traditionally have played a major role in physician continuing education, have taken the lead in developing and disseminating practice guidelines. Furthermore, physicians may be more apt to regard others in their own specialty as their peers, so that information dissemination through specialty societies is a more promising way to change clinical practice.

The establishment of a surgical VPS under OBRA89, therefore, presents a challenge to surgical specialty societies. They now need to develop and implement practice guidelines and physician profiling that can improve the practice of medicine. The Commission and the new Agency for Health Care Policy and Research (AHCPR) can and will assist in this process, but the ultimate success of a surgical VPS depends on the willingness and ability of the specialty societies to act.

Arguing against a specialty VPS system is the fact that medicine is not neatly compartmentalized. Optimal care for many patients requires the cooperation of physicians in several specialties. Treatment of a single condition such as atherosclerosis, for example, can involve a family practitioner, cardiologist, and thoracic surgeon, all of whom cooperate to provide effective care. A specialty VPS does not recognize the need for physicians of different specialties to work together to design and use practice guidelines that incorporate the relevant skills and knowledge of all medical disciplines.

Nor is the establishment of a specialty VPS system a conceptually straightforward undertaking. The nature of physician specialty affiliation is complex, making it difficult to determine the overlap between physicians covered by a particular VPS and physicians affected by the guidelines and educational efforts of a particular specialty society. Furthermore, the HCFA data reporting system and the constraints of OBRA89 make the situation even more difficult. Physician specialty is not clearly defined within the Medicare claims system.[11] OBRA89 prevents differential payment by specialty, which may complicate updating of specialty-based standards. Therefore, it is not clear just how closely a specialty VPS system can match responsibility for expenditures with the groups that can constrain expenditure growth.

The difficulty of matching categories of service to physician organizations is relevant to the legislated surgical VPS. Surgical specialty societies and the American College of Surgeons (ACS) clearly have an interest in controlling the growth of volume included in the surgical VPS. However, the nonsurgical VPS covers medical care, anesthesia, pathology, radiology, laboratory tests, and other types of services. It is not clear which societies or umbrella organizations will take the lead in monitoring and attempting to control volume for the nonsurgical portion of the standard.

Two additional longer-run issues also affect the desirability of a specialty VPS system. First, VPSs established by type of service or HCPCS codes may eventually move the relative values away from resource-based values as differential updates are given to subsets of HCPCS codes. This issue is addressed empirically below.

Second, and less amenable to analysis, setting the VPSs will eventually require judgment on the complex question of appropriate levels or rates of increase of different types of care. That is an intricate question even when applied to the relatively broad categories of surgical and nonsurgical care. It becomes even harder to answer--and may have greater impact--when applied to narrower categories of service. This issue should be resolved before establishing permanent categorical VPSs.

Technical Issues in a Surgical/Nonsurgical VPS System

Two important issues must be resolved when establishing a surgical VPS. First, what services or procedures are to be included in the standard? Second, how will the standard be updated over the longer term?

Defining the Surgical VPS. Three general approaches could be used to determine which services would be included under a surgical VPS. First, the VPS could be defined by physician specialty, so that the VPS would include care provided by surgeons. Second, a VPS could be established for all expenditures for surgical services, using the type of service indicator which is recorded in Medicare claims data. Finally, the American College of Surgeons has suggested an alternative, including in the VPS only those services performed primarily by surgeons.[12]

---

[11] The issue of specialty reporting is discussed below.

The first option, defining a surgery VPS to include the services performed by surgeons, is perhaps the most straightforward approach. However, OBRA89 does not generally recognize physician specialty as a valid basis for payment differentials. Since differential fee updates would eventually lead to different rates of payment, a VPS based on specialty per se would lead to specialty differentials and is not considered here.

Nevertheless, the specialty codes recorded in the Medicare claims processing system are useful to assess the other methods for defining a surgical VPS. Physician specialty coding in the Medicare Part B data is imprecise,[13] but in practice, national Part B data generally produce reasonable and consistent results when analyzed by specialty. Surgeons charge primarily for surgery, radiologists for radiology, anesthesiologists for anesthesiology, and so forth (Table 12-3).[14] The reported specialty codes thus can be used to show how a surgical VPS, determined by type of service or HCPCS codes, corresponds to the care provided by surgeons.

A second option for defining the surgical VPS is to use the type of service indicator that is recorded in Medicare claims data. Such a VPS could include all services coded either as surgery or as assistance at surgery. Table 12-4 demonstrates the overlap between services performed by surgeons, as defined by specialty code, and surgery, as defined by type of service code. Surgery accounts for roughly three-quarters of surgeons' charges, while surgeons account for about 80 percent of all charges for surgery.

---

[12] The ACS proposes including all HCPCS codes in the range 10000-69999 which are global services for surgical operations and which are provided at least 55 percent of the time by surgeons.

[13] Nearly all carriers rely on the physician's self-reported specialty. Carriers use their own specialty designations, and use specialty coding for pricing purposes to different degrees. All these factors tend to reduce the consistency of specialty coding. However, coding for the broad distinction between surgical and nonsurgical specialties may be more accurate than for the finer distinctions among the various surgical and nonsurgical specialties.

[14] Two medical specialties, gastroenterology and dermatology, actually receive the bulk of their charges for surgery (as defined by the Medicare carriers). A separate analysis shows that their surgery is almost entirely minor surgery such as removal of skin lesions or nonsurgical technical procedures such as endoscopies.

Table 12-3. Fraction of Charges by Type of Service (Osteopaths and Limited License Practitioners Excluded)

Fraction of Allowed Charges in Percent

Specialty	Type of Service				
	Surgery	Medical	Radiology	Anesthesia	All Other
Surgical					
General Surgery	79.5	13.3	0.9	0.0	6.0
Otolaryngology	48.6	39.5	1.4	0.0	10.3
Neurological Surgery	76.1	12.5	2.4	0.0	8.8
Ophthalmology	72.1	17.7	1.2	0.2	8.5
Orthopedic Surgery	75.6	12.9	8.4	0.0	2.9
Plastic Surgery	87.6	8.2	0.1	0.0	3.8
Proctology	89.2	7.6	0.3	0.0	2.8
Thoracic Surgery	89.4	4.0	1.1	0.0	5.3
Urology	74.8	14.4	1.5	0.0	9.0
Hand Surgery	77.1	15.2	3.9	0.0	3.6
RAPS and Related					
Radiology	1.5	0.9	91.2	0.0	6.2
Nuclear Medicine	0.4	3.2	84.4	0.0	11.8
Anesthesiology	5.1	1.7	0.1	92.2	0.6
Pathology	0.5	2.3	1.8	0.0	95.1
Other					
General Practice	10.6	73.2	3.9	0.6	11.4
Allergy	1.5	82.6	1.5	0.0	14.2
Cardiovascular Disease	23.3	43.8	4.8	0.0	27.9
Dermatology	68.8	20.2	0.7	0.0	10.1
Family Practice	7.5	75.1	4.1	0.1	13.0
Gastroenterology	67.6	20.8	0.9	0.0	10.5
Internal Medicine	9.6	66.0	3.4	0.0	20.8
Neurology	3.8	49.4	5.8	0.0	40.9
Physical Medicine	1.7	71.5	0.6	0.0	25.9
Psychiatry	0.2	88.9	0.2	0.0	10.4
Pulmonary Disease	15.1	63.2	1.8	0.0	19.6
Pediatrics	8.2	70.8	2.8	0.8	17.1
Geriatrics	16.0	74.7	0.5	0.0	8.6
Nephrology	7.8	53.4	0.7	0.0	37.9
Miscellaneous	1.8	15.0	10.1	0.0	72.9
Clinic/Group	26.2	41.8	13.1	2.2	16.4
Unknown	5.1	44.2	11.1	2.5	36.9

Source: PPRC analysis of 1987 BMAD-I file.

Table 12-4. Overlap Between Surgeons and Surgery

Percent of Charges for Surgical and Nonsurgical Services Accounted for by Surgeons and Other Physicians

	Surgical Type of Service	Other Type of Service	All Types of Service
Surgeons	79.1	13.9	37.9
Others	20.9	86.1	62.1
All Physicians	100.0	100.0	100.0

Fraction of Surgeons' and Other Physicians' Charges Accounted for by Surgical and Nonsurgical Types of Service

	Surgical Type of Service	Other Type of Service	All Types of Service
Surgeons	76.7	23.3	100.0
Others	12.3	87.7	100.0
All Physicians	36.7	63.3	100.0

Source: PPRC analysis of 1987 BMAD-I file.

A final option for defining a surgery VPS would be to declare certain HCPCS codes to represent surgery, and to set a performance standard for all charges under those codes. Such a standard would not be feasible under the current payment record system, which does not record procedure codes.[15] However, this would be feasible after the Common Working File becomes completely operational in FY 1991.

Table 12-5 shows the overlap between surgery, as defined by the codes for which surgeons account for more than half of allowed charges, and all services billed by surgeons. This HCPCS code-based definition of surgery captures approximately 81 percent of surgeons' charges, versus the roughly 77 percent of surgeons' charges captured by the type of service definition of surgery. Therefore, from the standpoint of measuring what surgeons do, there is little difference in the aggregate between a performance standard defined by type of service and a standard defined by HCPCS code. Either method would capture roughly four-fifths of surgeons' charges.

However, the types of procedures included under the VPS using the HCPCS code definition would differ greatly from those included using the type of service definition (Table 12-6). Table 12-6 shows the relationship between the services provided by surgeons and surgical type of service, broken out by the mean charge for the surgery. Approximately half of minor surgery, defined by a mean 1987 allowed charge of less than $500, is done by nonsurgeons; minor surgery constitutes about 70 percent of surgery done by nonsurgeons.[16] Surgeons, on the other hand, do the most of the major surgery (costing over $500), and major surgery constitutes about four-fifths of the surgery done by surgeons.

---

[15] More accurately, the volume of care in surgical HCPCS codes would have to be estimated from charges reported as surgery under the payment record system. It is not clear whether this could be done with any precision.

[16] This shows that many of these minor surgeries would be excluded from a HCPCS code-based target.

Table 12-5. Defining Surgical HCPCS Codes as What Surgeons Do

Percent of Charges for Surgical and Nonsurgical HCPCS Codes Accounted for by Surgeons and Other Physicians

	Surgical HCPCS Codes	Other HCPCS Codes	All HCPCS Codes
Surgeons	84.6	11.4	37.9
Others	15.4	88.6	62.1
All Physicians	100.0	100.0	100.0

Percent of Surgeons' and Other Physicians' Charges Accounted for by Surgical and Nonsurgical Types of Service

	Surgical HCPCS Codes	Other HCPCS Codes	All HCPCS Codes
Surgeons	80.8	19.2	100.0
Others	9.0	91.0	100.0
All Physicians	36.2	63.8	100.0

Source: PPRC analysis of 1987 BMAD-I file.

Note: In this table, surgical HCPCS codes are defined as HCPCS codes where surgeons accounted for half or more of allowed charges.

Table 12-6. Major and Minor Surgical Care by Specialty

Percent of Charges for Surgical Services Provided by Surgeons and Others, Within Categories of Services Defined by Mean Allowed Charge

Mean Allowed Charge for Procedure

	Under $200	$200-$500	$500-$1,000	$1,000-$,1500	$1,500-$,2000	over $2,000	All Surgery
Surgeons	46.7	54.8	79.2	92.1	98.2	92.7	79.2
Others	53.3	45.2	20.8	7.9	1.8	7.3	20.8
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Percent of Surgeons' and Other Physicians' Charges for Surgery Across Categories of Service Defined by Mean Allowed Charge

Mean Allowed Charge for Procedure

	Under $200	$200-$500	$500-$1000	$1000-$1500	$1500-$2000	Over $2000	All Surgery
Surgeons	7.9	11.1	18.6	18.0	29.5	14.9	100.0
Others	34.1	34.9	18.6	5.9	2.0	4.5	100.0
All	13.3	16.1	18.6	15.5	23.8	12.7	100.0

Source: PPRC analysis of 1987 BMADI file.

Other criteria might be used to compare these two approaches. A surgical VPS based on type of service coding would be easier to establish and administer. Type of service is coded in both the current PR system and the new CWF system. Only a relatively small adjustment for the consolidation of charges that takes place in the PR system would be required to establish the level of a surgical VPS for 1991 (under CWF) from existing PR data.[17] Moreover, systems are already in place that routinely tabulate data by type of service.

A VPS defined by procedure code could be customized to correspond more closely with a functional definition of surgery. This definition would focus on services that are more traditionally regarded as surgery and thus are more likely to be the subject of guidelines issued by the surgical specialty societies. A surgical VPS based on HCPCS codes, however, would be more difficult to establish and administer. Currently about half of Part B claims data are being reported under the PR system, which does not include HCPCS codes. It would require a much more speculative adjustment to extrapolate these data in establishing the 1991 surgical VPS. New procedures also would have to be set in place to ensure timely tabulation of expenditures in surgical HCPCS codes.

Longer-Term Considerations. In the short run, a surgical VPS can be established using the existing pattern of charges and volume of services within the service categories. In the long run, however, the appropriate levels of these VPSs might change. This raises the question of whether performance standards should accommodate changes and trends in the use of surgical services.

A ten-year view of charge growth by type of service is provided in Table 12-7. Between 1977 and 1987, charges for surgical services (surgery and assistance at surgery) grew 16.2 percent per year, while charges for nonsurgical services grew by 15 percent per year. Medical services, however, grew much more slowly, just 11.9 percent per year.

---

[17] Unlike the CWF, PRs consolidate charges into the single largest type of service/place of service category present on the bill. This causes a slight overstatement of charges for surgery, due to the high average charge per surgical procedure. Currently, to maintain comparability with the existing PR system, CWF data are consolidated in a similar fashion before published tabulations are generated.

Table 12-7. Long Term Trends in Part B Charges

Type of Service	Total Allowed Charges In $Millions			Annual Growth Rate In Percent		
	1977	1982	1987	77-82	82-87	77-87
All types of service	7,202	16,599	30,050	18.2	12.6	15.4
All surgical services	2,117	5,036	9,478	18.9	13.5	16.2
Surgical	2,022	4,781	9,165	18.8	13.9	16.3
Assistance at surgery	94	254	313	21.9	4.2	12.7
All nonsurgical services	5,085	11,563	20,572	17.9	12.2	15.0
Medical	2,954	5,969	9,075	15.1	8.7	11.9
Consultation	183	502	1,142	22.4	17.9	20.1
Diagnostic X-ray	492	1,238	2,644	20.3	16.4	18.3
Clinical lab	632	1,519	2,795	19.2	13.0	16.0
Radiation therapy	81	180	376	17.5	15.8	16.6
Anesthesia	297	695	1,094	18.6	9.5	13.9
Other	423	1,460	3,446	28.1	18.7	23.3

Source: Allowed charge data taken from a recent Health Care Financing Administration memorandum (DHHS, 1989).

There appears to be broad agreement among several recent studies as to the major sources of Part B growth (Fisher, 1988; McMenamin et al., 1988; Holahan et al., 1989; Mitchell et al., 1989). Most studies have cited the growth in surgery, broadly defined to include endoscopies and arthroscopies, as the primary source of recent Part B growth. Outpatient surgeries for cataracts and endoscopies were the services most consistently cited as major sources of growth, although charges for cardiac catheterization (and charges by cardiologists) were also frequently cited. While surgery accounts for only about 30 percent of charges, surgery growth accounted for approximately 40 percent of expenditure growth over the period 1983 to 1986. However, that growth pattern appears to have moderated more recently. From 1986 to 1987, for example, expenditures for surgical services actually grew more slowly than expenditures for all physician services.

The simplest approach to establishing and updating performance standards would be an extrapolation of the status quo. One could either fix the existing shares of charges for surgical and nonsurgical care or extrapolate past trends in those charge shares.

However, OBRA89 calls for a more sophisticated approach to setting the surgical and nonsurgical VPSs. The Commission will consult with experts to suggest how charges should be divided between surgical and nonsurgical services. Expert opinion on the impact of changes in technology, as well as in the level of inappropriate care and lack of access to care, will all be factored into the VPS update decision.

A final question for the longer term is the potential impact of differential fee updates for surgical and nonsurgical services on the Medicare Fee Schedule relative values. This is difficult to quantify because an estimate of the impact of differential updates requires assumptions about changes in the volume of services over the coming years, along with predictions of the performance standards themselves.

Table 12-8 simulates the potential impact of the VPSs on relative values, making several important assumptions about the path of volume and fee updates (discussed below). Five years of separate fee updates would have only a marginal impact on relative values, even in a worst-case scenario where nonsurgical fees receive only a minimal update. However, over a ten-year period, differential surgical/nonsurgical updates could potentially undo approximately half of the change in relative values brought about by the shift to the resource-based Medicare Fee Schedule.

There are several caveats that must accompany these estimated impacts. First, historical patterns of expenditure growth would not have generated a minimal nonsurgical update. The minimum update would require surgical services to grow 3 percent per year slower than nonsurgical services, whereas between 1982 and 1987, surgical services actually grew 1.3 percent per year faster than other services. Second, the national default rates of fee growth have been used in this simulation. The Congress expects to legislate fee updates rather than depend on the defaults in most years. Finally, this analysis has assumed that the growth rate of the standards would be the same for both types of services, and that all differences in fee updates would arise from differential rates of expenditure growth. Because the VPS updates may be based on such factors as evidence of unnecessary utilization, both the volume of services and the performance standards themselves may grow at different rates for surgical and nonsurgical services. This will tend to reduce further the impact of surgical/nonsurgical standards on the relative values.

Table 12-8. Simulation of the Impact on Fees of Separate Surgical/Nonsurgical VPS Updates

	Mean Allowed Charge		
	Code 27130: Total Hip Replacement	Code 90060: Intermediate Office Visit	Ratio
BASELINE: CHANGE FROM CPR TO MFS			
CPR	$2404	$28	85:1
MFS	1984	35	56:1
FIVE YEARS OF MFS FEE UPDATES			
Uniform update	$2533	$45	56:1
Minimal surgical update	2380	45	53:1
Update based on '82 to '87 expenditure growth	2440	45	54:1
Minimal nonsurgical update	2533	42	60:1
TEN YEARS OF MFS FEE UPDATES			
Uniform update	$3219	$57	56:1
Minimal surgical update	2640	57	46:1
Update base on '77 to '87 expenditure growth	3018	57	53:1
Minimal nonsurgical update	3219	47	68:1

Notes:
a) MFS = Medicare Fee Schedule
b) CPR = Customary, Prevailing, Reasonable
c) Base rate of fee updates is assumed to be 5 percent per year.

REFERENCES

Fisher, C., "Trends in Medicare Enrollee Use of Physician and Supplier Services, 1983-1986," *Health Care Financing Review* 10(1):1-15, Fall 1988.

Holahan, J., Z. Dor, and S. Zuckerman, *Medicare Physician Expenditure: Sorting Out the Reasons for Growth*, NCHSR grant #HS 05592, HCFA grant #17-C-99222/3-01, Washington, D.C.: Urban Institute, January 1989.

Leape, L.L., R.E. Park, D.H. Solomon, et al., "Does Inappropriate Use Explain Small-Area Variations in the Use of Health Care Services?" *Journal of the American Medical Association* 263(5):669-672, February 2, 1990.

Leape, L.L., "Unnecessary Surgery," *Health Services Research* 24(3):351-407, August 1989.

McMenamin, P., H. West, and L. Marcus, *Changes in Medicare Part B Physician Charges: Final Report*, Mandex Inc., Springfield, VA, October, 1988.

Mitchell, J., G. Wedig, and J. Cromwell, "The Medicare Physician Fee Freeze: What Really Happened?" *Health Affairs* 8(1):21-33, Spring 1989.

U.S. Congress, Congressional Research Service, *Prospective Budgeting for Medicare's Physician Service*, prepared by K.C. Cahill, Washington, D.C., October 1989.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, *Data Compendium on Physicians and Other Non-Institutional Suppliers*, Baltimore, MD, Spring 1989.

CHAPTER 13

PHYSICIAN ALTERNATIVES TO VOLUME PERFORMANCE STANDARDS: MEDICARE RISK CONTRACTS AND CARVE OUTS[1]

Medicare Volume Performance Standards (VPSs) provide a collective incentive directed at physicians to discourage them from providing unnecessary or inappropriate services. Financial incentives may also be focused more directly on organizations that can influence the provision of services. One method for doing so, the establishment of a subnational VPS system, was examined in Chapter 12. This chapter examines two alternatives that focus incentives directly onto provider organizations: improving upon and expanding Medicare risk contracting with health maintenance organizations (HMOs); and allowing groups of physicians to be evaluated on the basis of their own volume performance (that is, to "carve out" their own performance standards).

This chapter is divided into two sections. The first examines Medicare risk contracting with HMOs, providing background information on the introduction of risk contracting under the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA), a discussion of current problems, and a framework for further analysis of Medicare HMO payment policy. The second section provides an analysis of alternative ways in which a voluntary physician carve-out system could be devised. After careful consideration of a number of alternative designs, the Commission has concluded that fundamental problems are associated with devising a workable carve-out system. The Commission thinks additional efforts directed toward improving existing managed care options is a more promising approach to focus incentives on specific groups of providers.

RECOMMENDATION

> **Voluntary physician carve outs should not be incorporated into the VPS system. Instead, attention and resources should be focused on improving managed care options, such as risk contracts with HMOs.**

---

[1] The Commission wishes to thank W. Pete Welch of The Urban Institute for his contributions to this chapter.

HMOs AND TEFRA RISK CONTRACTING

Medicare risk contracts with HMOs focus financial incentives directly on organized groups of providers. An HMO with a risk contract receives a fixed payment per enrolled beneficiary. Losses may result if the cost of the care it provides exceeds this payment. This gives the HMO and its member physicians a strong inducement to constrain costs and prevent overutilization of services.

HMO risk contracts allow groups of providers to be rewarded on the basis of their own volume performance. Under a national VPS, each physician's fee updates are linked to the average volume of care provided by all physicians. With a risk contract, in contrast, financial rewards depend only on the care provided by the HMO's physicians. HMO risk contracting is a feasible way to offer some groups of physicians an alternative to the national VPS.

Currently, relatively little care is provided to Medicare beneficiaries under HMO risk contracts. The Commission views the improvement and expansion of this existing payment option as a promising alternative for physicians under the VPS system. The rest of this section briefly examines the Medicare risk contracting program and a number of policy proposals to be explored by the Commission.

Background

HMOs typically provide comprehensive health services to a defined population for a predetermined capitated payment. Within this framework, HMOs employ a variety of organizational structures with different physical, financial, and managerial arrangements.[2] This variety of types of HMOs makes it difficult to generalize about the performance of HMOs as health care providers. However, it appears that HMOs may offer advantages over traditional fee-for-service medicine.

First, available evidence suggests that HMOs typically deliver care at a lower cost than fee-for-service medicine (Manning et al., 1984; Luft, 1981). These cost savings may arise from the comprehensive and prepaid nature of HMO care. Comprehensive coverage allows better coordination of various types of care, including inpatient, outpatient, and home health care. Prepayment creates financial incentives to reduce unnecessary care and to be cost-sensitive in contracting with hospitals and other health care providers.

---

[2] In a staff model HMO, physicians are generally salaried employees of the HMO. A group model HMO contracts with a medical group to provide necessary services, while a network model HMO contracts with more than one medical group. Payment to individual physicians in group and network model HMOs is determined by the medical group. Independent practice association (IPA) model HMOs contract directly with physicians who continue to practice in their private offices. IPA physicians typically maintain a non-HMO patient base and may be paid on a fee-for-service or capitation basis.

Second, the quality of care in HMOs appears to be equivalent to that in other settings (Langwell and Hadley, 1989; Sloss et al., 1987; Ware et al., 1986). There has been some concern that the financial incentives that lead to efficient care in some HMOs may lead to underservice in others (PPRC, 1989). Since HMOs operate within a fixed budget, some prepaid plans may compensate for ineffective organization by relying on physicians to control costs through financial incentives. If financial incentives are too great and if risk is transferred to individual physicians, the result may be underuse of services. However, available studies have not demonstrated widespread quality of care problems in HMOs.

Medicare payment rules provided only limited beneficiary access to HMOs prior to TEFRA. Before TEFRA, beneficiaries could routinely receive HMO services only on a fee-for-service or retrospective cost basis.[3] Because HMOs typically do not provide care on such bases, many were unwilling to care for beneficiaries. TEFRA and ensuing regulations expanded payment rules to allow HMOs and competitive medical plans (CMPs)[4] to enter into risk-based (that is, capitation) contracts with Medicare, increasing beneficiary access to HMO care.[5]

The TEFRA risk-contracting program has not attracted as much beneficiary participation as it potentially might. Currently, overall HMO enrollment is roughly 13 percent of the total U.S. population; yet only 3 percent of Medicare beneficiaries are enrolled in HMOs under TEFRA risk-based contracts (Group Health Association of America, 1989). Moreover, HMO participation has not been broad-based. Seventy percent of risk enrollees are located in 14 metropolitan statistical areas, and four HMO chains account for half of all enrollees (Gold and Palsbo, 1989).

One reason for low beneficiary enrollment may be a lack of confidence in HMOs stemming from early problems in implementing risk contracting. In 1987 the Senate Special Committee on Aging issued a critical report on the risk contracting program (U.S. Congress, 1987).[6] The credibility of the program was further weakened by investigations into the business practices of its largest contractor.[7] Since these early reports, Health Care Financing Administration (HCFA) oversight and administration of risk contracting has improved. Among other changes, HCFA issued regulations regarding quality review of HMOs under Peer Review Organization (PRO) guidelines.[8]

---

[3] While HMO care was provided on a retrospective cost basis and via medigap-type policies, these two options did not require the beneficiary to receive care exclusively from HMO physicians. Moreover, they did not entail substantial financial risk on the part of the HMO. A considerable amount of service is still provided under such arrangements. Some very limited risk arrangements were undertaken in the 1970s.

[4] CMPs are health plans that qualify as HMOs under state regulations but are not federally qualified HMOs. For the rest of this section, the term HMOs will be used to refer to HMOs and CMPs.

[5] In August 1982, the Department of Health and Human Services (HHS) began a large-scale demonstration project to pay HMOs on a capitation basis. Full implementation of Medicare capitation began in 1985.

[6] This report criticized the program for insufficient government oversight of enrollment and disenrollment policies, marketing practices, and quality of care.

Additional factors may also weaken beneficiary willingness to enroll in HMOs. Relatively high rates of disenrollment in the initial TEFRA demonstrations suggest some degree of beneficiary discomfort with HMO management style (Langwell and Hadley, 1989). Current Medicare beneficiaries may be generally unfamiliar with HMO managed care since HMOs represent a relatively new form of health care delivery, and few beneficiaries received services from them before retirement. Furthermore, beneficiaries who have a regular physician may be disinclined to change providers in order to join an HMO. However, both these factors--unfamiliarity with HMOs and unwillingness to switch providers--may lessen as the current HMO-enrolled population ages into the Medicare system.[9]

On the other hand, the availability of prepaid services is often limited. HMOs have a very uneven geographic distribution. For example, between 20 percent and 30 percent of the population of California, Oregon, and Wisconsin is enrolled in HMOs, while less than 2 percent of the population is enrolled in states such as Arkansas, Maine, or Idaho.[10] Furthermore, HMOs appear to be unwilling to undertake risk contracts in areas with relatively low Medicare payment rates (Adamache and Rossiter, 1986). The result is that Medicare beneficiaries in many areas have little or no opportunity to enroll in an HMO. Currently, 19 states have no risk-contracting HMO available (DHHS, 1990).

Proposals to increase the role of risk contracting, therefore, might focus on ways to increase incentives for both beneficiary and HMO participation. Analysis of such proposals must begin with the incentives for participation offered by the current payment system.

---

[7] International Medical Centers (IMC) was the largest risk contracting HMO in the early years of the program. The House Committee on Government Operations reported that IMC conducted a lobbying scheme involving former HHS officials to improperly waive laws and regulations designed to protect beneficiaries. It also showed that HCFA failed to monitor IMC adequately for improper payments and that IMC may have negligently provided care such that Medicare beneficiaries were put at undue risk.

[8] HCFA is also currently conducting a major evaluation of the TEFRA HMO program. The Commission will examine first year results of that study as they become available.

[9] Approximately 16 percent of current HMO enrollees are between the ages of 45 and 64 (Group Health Association of America, 1988). This implies that a potential 4.5 million Medicare HMO age-ins may occur over the next two decades.

[10] Percentages are based on enrollment in HMOs headquartered in the state as of January 1988 (InterStudy, 1988) divided by state population.

Under the TEFRA rules, HMOs receive a payment for each enrolled beneficiary, with the payment set by formula to approximate 95 percent of Medicare fee-for-service expenditures in the HMO's locality.[11] In addition, however, HMOs are required to reduce beneficiary copayments or expand coverage to the extent that this payment exceeds an estimate of the HMO's per-capita charges for the remainder of its enrolled population.[12]

These TEFRA payment rules were designed to allow Medicare, the HMO, and the beneficiary to share the benefits deriving from the HMO's relative efficiency in providing care. The capitation payment was based on local fee-for-service costs. Consequently, HMOs would accept risk contracts only if they could provide care at a lower cost than local fee-for-service alternatives. Those cost savings were then to be shared: by the federal government, through its reimbursement at 95 percent of the adjusted average per capita cost (AAPCC); by the HMO, through its recovery of a normal rate of profit; and by the beneficiary, who received some combination of lower copayments or increased benefits or both.

Current and future cost-sharing policy should be considered in any proposed policy changes. It is not clear, for instance, that the federal government has shared in real cost savings under the existing program. Evidence suggests that HMOs have attracted healthier-than-average beneficiaries, even after accounting for the beneficiary characteristics that enter into the payment formula (Langwell and Hadley, 1989). The result may have been a net overpayment to HMOs, estimated by the General Accounting Office (GAO) to be approximately 5 percent of total HMO payments (GAO, 1986; GAO, 1989). Other evidence suggests HMOs may have been underpaid due to underestimates of fee-for-service costs. Since HMO payments are based on projected fee-for-service costs, under-prediction of those costs over the last few years may have largely offset the effects of beneficiary self-selection (Milliman and Robertson, Inc., 1987). Nevertheless, in theory, the requirement that the federal government realize cost savings from the risk-contracting program limits the total benefits that may be distributed to beneficiaries and HMOs.

Despite some shortcomings, HMO risk contracting seems a promising payment option under Medicare. The underlying concepts of comprehensive, managed care and fiscal incentives for efficient delivery are sound. If beneficiary enrollment is to rise, however, payment rules may need to be changed to increase incentives for beneficiary and plan participation. Such changes should also reflect consideration of Medicare cost savings. The next section briefly outlines policy proposals in this area which the Commission will consider.

---

[11] Payment is set at 95 percent of projected per capita fee-for-service expenditures in the HMO's service area, adjusted for the age, sex, institutional, and Medicaid status of the HMO-enrolled population.

[12] This is the adjusted community rate (ACR) rule. The ACR is an estimate of what the HMO's "usual" charges would have been for its enrolled beneficiaries. If both the adjusted average per capita cost (AAPCC) and the ACR are accurate, this rule effectively caps HMO profits from Medicare enrollees at the rate of profit which it earns from its non-Medicare enrollees.

Work Plan on Medicare Payment and Managed Care

AAPCC Reform. The Commission will continue to examine options for reducing inaccuracies in the calculation of HMO payment rates. The Commission's 1988 report to Congress reviewed efforts to improve the accuracy and consistency of the AAPCC in detail. It examined methods to adjust for differences in enrollee health status to minimize biased selection. It also considered potential improvements in the methods used to project local fee-for-service per capita expenditures.

A number of studies have focused on the AAPCC in recent years. HCFA performed a major review of HMO payment issues, but recommended only minor changes in the AAPCC methodology (DHHS, 1988). Other studies have focused more narrowly on modifying county-level payment variation (Rossiter and Adamache, 1989), or on enhancing the understandability and accuracy of payments. HCFA is currently examining the feasibility of basing HMO payment rates on HMO experience rather than on that of fee-for-service care (DHHS, 1989). A GAO report on the AAPCC payment methodology is planned for the spring of 1990.

The Commission will consider options to change the current AAPCC payment methodology. It will begin by focusing its analysis on diagnostic cost groups (DCGs), which use information on hospitalization to predict health care needs. DCGs have been tested and refined in a series of demonstrations, but some aspects of their design and implementation require further examination.[13] While the Commission will concentrate its efforts on this methodology, it will also consider other potential adjustment methods.

Direct Capitation of Physician Groups. The Commission will examine the feasibility and desirability of enlarging the TEFRA capitation program to include organizations other than HMOs. One proposal of particular interest is the expansion of the Medicare capitation program to include large multispecialty group practices. Large physician groups that are interested in such a capitation arrangement would, presumably, be required to meet a revised set of eligibility requirements.[14] In addition, beneficiaries would voluntarily enroll on a prepaid capitated basis with restrictions on services provided outside of the physician group. Moreover, participating groups would be required to have, or establish, quality assurance procedures and be subject to the same level of quality review that HMOs experience.

---

[13] One concern is the degree to which DCG-based risk rating is appropriate for HMOs due to the very stringent controls which HMOs typically place on hospital use. Another concern is that DCGs require the tracking of HMO hospital admissions through "no-pay" bills, but currently such bills are only irregularly submitted on behalf of HMO enrollees. A final concern is how much of the existing differences between HMO and FFS populations will be accounted for by DCGs.

[14] The Medical Group Management Association has proposed such an expansion in Medicare program options. A proposal to conduct a demonstration of such an option was developed in 1987.

The primary advantage inherent in such a proposal is that it would enlarge the scope of organizations from which beneficiaries could receive care on a capitated basis. As noted above, HMOs are unevenly distributed, geographically. Large physician group practices may provide an alternative to HMOs in areas that have few or no prepaid options. In addition, Medicare beneficiaries have demonstrated an unwillingness to change providers in order to join HMOs. This type of proposal may increase participation in the capitation program by enlarging the pool of eligible providers.

There are, however, many issues the Commission must address with respect to direct capitation of physician groups. The extent to which the Medicare program is likely to realize savings from such an expansion is unclear. State regulation may also be an issue, since physician groups are not encompassed in HMO enabling legislation in many states. Furthermore, it is not clear that current requirements for CMP status are unduly burdensome on groups that are interested in a risk contract. The extent to which quality of care would be assured in organizations not qualifying for CMP status is also not clear. The Commission will also examine whether a proposal for direct capitation of physician groups should be approached as a demonstration project or be implemented directly as a modification of the existing statutes.

Improving Incentives for Capitation. The Commission will assess options to increase incentives for HMOs and beneficiaries to participate in the capitation program. As discussed earlier in this section, HMOs receive 95 percent of the AAPCC for each Medicare beneficiary enrolled under a risk contract, with the remaining 5 percent considered an appropriate savings for the government. HMOs are expected to achieve no more than a normal rate of return from Medicare risk-contracting payments and must rebate excess payments to beneficiaries through reduced copayments or increased benefits.[15] Under this system, HMOs provide the principal inducement to beneficiaries to enroll in the risk program.

In its 1991 budget, the Administration has proposed to eliminate the government's statutory 5 percent savings under the risk-contracting program in order to offer additional inducements to beneficiaries and HMOs. They propose splitting that 5 percent savings between risk enrollees and HMOs. Part B premiums of Medicare beneficiaries would be reduced each month they are enrolled in risk-contracting HMOs by an amount equal to 5 percent of the lowest AAPCC in the nation.[16] All beneficiaries who enroll in risk-contracting HMOs would receive the same reduction in their Part B premium, possibly in the form of a rebate once a year. Any difference between the statutory savings and this beneficiary payment would be included in the HMO capitation payment. This would effectively raise federal outlays to 100 percent of the AAPCC, eliminating any federal savings from the risk contracting program.[17]

---

[15] However, direct cash rebates from the HMO to the enrollee are prohibited.

[16] If Puerto Rico is included that 5 percent figure would be approximately $3, otherwise it would be close to $6.

An alternative proposal, which focuses incentives more directly on the HMO, was offered in *HCFA Recommendations on AAPCC and ACR*, a report to Congress (DHHS, 1988). The report suggested rescinding the current adjusted community rate rule.[18] Rescinding the rule could increase HMO incentives to accept capitation contracts but might also reduce beneficiary participation if it resulted in increased cost sharing or reduced coverage.

Both of these proposals would shift the sharing of benefits among the federal government, HMOs, and beneficiaries. The Commission will assess the potential impact of these proposed changes on HMO and beneficiary participation in the risk-contracting program.

Benefit Design and Program Assessment. The Commission will also examine other aspects of current risk program operations that may influence beneficiary and HMO participation. Specifically, the Commission will examine the implications of point-of-service (POS) HMO benefit options[19] and their potential for encouraging beneficiary enrollment under the Medicare risk program. POS benefit options are designed to allow HMO enrollees some level of access to non-HMO providers, typically in exchange for additional cost sharing. For instance, an enrollee may have to pay the difference between an HMO's allowable fee for a given service and a non-HMO provider's charge. A POS option may be especially useful in meeting the needs of retirees who maintain a seasonal residence outside their primary service area. It may also allow those who have an established relationship with a physician, such as a particular specialist, to join an HMO and maintain continuity of care. The availability of open-ended benefit options appears to be growing for the non-Medicare population in HMOs and may be especially suited to Medicare beneficiary needs.

The Commission will also examine efforts to better facilitate quality of care assessment in HMOs. Current review is performed under PRO guidelines which may inadvertently serve as an impediment to HMO participation under TEFRA. The Commission strongly supports the appropriate assessment of the quality of care in HMOs. However, current PRO guidelines for such review were principally designed with non-capitated delivery systems in mind. Moreover, HMO industry leaders have suggested that current review procedures are not suited for judging the quality of care in capitated settings. The assessment of quality of care in HMOs should account for the differing nature of capitated and non-capitated service provision. Alternative review procedures for HMOs, ones which address the special nature of capitated managed care programs, may be appropriate.

---

[17] Some portion of Medicare expenditures specifically underwrites medical education which is not now routinely undertaken by HMOs. Therefore, payment to HMOs at 100 percent of the AAPCC may not be strictly comparable to fee-for-service costs.

[18] A description of that rule was noted earlier in this chapter.

[19] These have also been referred to as out-of-plan and open-ended benefit options.

HMO Work Plan Summary

The existing Medicare risk-contracting program has the potential to provide high-quality, cost-effective care to the Medicare population. To date, however, participation in the program by beneficiaries and HMOs has been quite limited. Proposals should be considered for increasing incentives for beneficiary and HMO participation in the program, with due consideration of federal cost savings under the program.

The Commission will examine several such options. It will consider proposals related to AAPCC reform with specific emphasis on the integration of DCGs in capitation payment rate calculations. Other proposals the Commission will explore are designed to expand participation in Medicare risk contracting at both the organizational and beneficiary level. Those include direct capitation of large multispecialty groups and various proposals to increase incentives to beneficiaries to enroll under the program. The Commission will also examine issues in benefit design and quality assurance.

Many of the individual proposals discussed above would result in potentially large redistributions of payment between the federal government, HMOs, and beneficiaries. The Commission will examine closely the trade-offs between various payment reform options, and, if appropriate, offer a package of policy changes to moderate the revenue impacts associated with any single proposal.

PHYSICIAN CARVE OUTS UNDER VOLUME PERFORMANCE STANDARDS

The Omnibus Budget Reconciliation Act of 1989 calls for the study and possible implementation of a plan to allow groups of physicians to have their own volume performance standards. The legislation requires the Secretary of Health and Human Services to report to Congress by April 15, 1991 on the "criteria to determine which physician groups are eligible to have separate performance standard rates of increase and the methods by which such group-specific performance standard rates of increase would be accomplished." The Commission is to comment on the Secretary's report by May 15, 1991. The legislation stipulates, however, that such a plan cannot be implemented "unless Congress specifically approves the plan" and not until October 1, 1991 at the earliest.

This section analyzes several ways in which a carve-out system could be devised. The type of system analyzed can be summarized briefly as follows. A group of physicians, such as a multispecialty group practice or a county medical society, decides to establish themselves as a carve-out group (COG) from the national VPS system. Beneficiaries either choose to become a member of the group or, alternatively, a method is devised to attribute their utilization to the group, but they are not "locked in." That is, they can still receive Medicare services from non-group physicians. The growth in expenditures for services provided to these beneficiaries over a year's time is compared to a targeted rate of growth (namely, the group's performance standard). If actual growth exceeds (or falls short of) the targeted amount, physicians in the group will get lower (or higher) annual fee updates.[20]

Proponents of such a system argue that the arrangement would both enhance the efficiency of medical practice and be more equitable to physicians. They assert that smaller groups will be better able to reduce the provision of services that are of little or no value. In addition, groups of physicians that strive to provide only appropriate care would not be penalized by those physicians who do not. Nevertheless, as discussed below, these benefits would be achieved only if the system could be designed to: (1) encourage efficiency rather than the selection of a healthier mix of patients; (2) result in the provision of necessary care rather than the referral of all complicated cases outside of the group; and (3) ensure that high-quality care is provided in the presence of group incentives to control volume.

Several issues must be resolved before a carve-out system could be implemented. They include:

- whether explicit beneficiary enrollment is required for membership in a group or, if not, how the utilization of beneficiaries is attributed to a group;
- whether services provided by physicians outside of a group are to be included in the group's performance standard;
- how group performance is evaluated for purposes of updating fees;
- whether all physicians in a group must participate if the group wishes to carve out; and
- how quality of care will be evaluated.

Beneficiary Membership

Perhaps the most basic issue in the design of COGs is establishing rules for beneficiary membership. Three very different schemes are possible:

- require explicit beneficiary sign up for membership in a COG;

---

[20] One curious implication of this is that if a group is successful in controlling volume, beneficiary copayments will rise because group physicians will receive a higher fee update.

- allow physicians to choose the beneficiaries whose utilization will be attributed to the COG; or
- have HCFA determine the list of beneficiaries whose utilization will be attributed to each of the COGs.

Each of the three alternatives, however, presents a number of problems.

Under the first method, beneficiaries would have to sign an agreement to be members of a COG. Fee updates for physicians in the group would be influenced by how these beneficiaries' utilization compared with the group's performance standard. An advantage of explicit sign up is that it would allow beneficiaries to choose whether they wish to participate in a COG. Even though beneficiaries would not be locked in to a group, some would argue that they should still be allowed to make an explicit decision about whether they wished to be part of a system in which physicians might practice medicine differently (a principal goal of a carve-out system).

To persuade beneficiaries to sign up, however, it would be necessary to provide financial incentives.[21] These would most likely be in the form of lower deductibles or coinsurance. The obvious question that arises concerns who would finance these enhancements to the Medicare benefit package. Medicare would be unlikely to do so because benefit expansions are costly and overall program expenditures will already be controlled--even in the absence of carve outs--under the national VPS system. Thus, the responsibility would have to be left to the COG. But lower deductibles and coinsurance are likely to increase the quantity of services demanded by beneficiaries, making it even more difficult for the COG to meet its performance standard.

Beneficiary sign up also may be confusing to patients who are treated by more than one physician. They might be solicited to sign up with more than one group and could also be concerned that signing up with one group would preclude the use of outside physicians. Finally, requiring explicit beneficiary sign up could entail substantial marketing expenses that could overwhelm the potential financial gains that might result from forming a COG.

The second choice would be to allow physicians to identify the beneficiaries whose utilization would be attributed to the COG. Under this option, a COG might send to HCFA a list of beneficiaries whose primary care physician was a member of the group. Group membership would be invisible to the beneficiary. But their utilization would be tallied at the end of a year and compared with the COG's performance standard for purposes of updating fees.

---

[21] This design option, where beneficiaries are given financial incentives to sign up in a group, is very similar to a preferred provider organization (PPO). HCFA currently is in the process of conducting a separate demonstration project in five sites to test the feasibility of offering Medicare beneficiaries a PPO option.

The advantage of this option is that COGs could be formed without incurring the substantial costs of offering financial incentives and of marketing. There appear to be several difficulties, however. First, beneficiaries often see several physicians in the course of a year. It is not clear how to deal with situations in which physicians in more than one COG enroll a beneficiary. One possibility would be to give priority to the physician who saw the beneficiary the most frequently during the previous year. But this would have the disadvantage of favoring physicians who provide the most services. This is appropriate if the services are necessary, but contrary to the entire purpose of the VPS system if they are not. Similarly, in cases where a beneficiary had just become eligible for Medicare or had just moved to an area, it would be difficult for HCFA to ascertain whether a COG could legitimately enroll a member.[22]

Perhaps the most serious concern with physicians identifying beneficiaries, however, is selection bias. Physicians in a COG would have an incentive to enroll certain types of beneficiaries to meet the group performance standard and to drop those who would hinder meeting the standard. Whether COGs might wish to "skim the cream" by enrolling the healthiest individuals would depend on how performance standards could be set, which is discussed below. But even if standards were set in a way that accounted for beneficiaries' previous health status or utilization levels, COGs would have an incentive to avoid those individuals whose future utilization levels are likely to be substantially higher than they were in the past. They might even wish to expel physicians with particularly sick patients.

The third method of assigning membership, and a way of avoiding the selection bias problem, would be for HCFA to assign particular beneficiaries to COGs. This could be done in various ways, depending on the type of COG. For example, if the COG were a county medical society, all beneficiaries in the county could be assigned to it. But this would cause problems in developing performance standards and evaluating group performance because all physicians in a county are not members of their county medical society. Consequently, a method would have to be devised to attribute only a portion of utilization in the county to the COG, but it is not clear what that portion should be.

For multispecialty groups, utilization from previous periods (or even current usage[23]) could be used to determine which beneficiaries would be linked to COG physicians. One problem with this method, however, is that assignment based on previous utilization patterns would tend to favor physicians who, historically, provided a large number of services. Another problem would be that there appears to be no clear way to deal with beneficiaries who previously used no services or who used only a minimal number of services in previous periods. Some of these beneficiaries are likely to use COGs in their local areas. Unless a method is devised that accurately predicts which COGs they are likely to use and in what amounts, it would be difficult to assign an appropriate performance standard to the COG.

---

[22] Both of these issues also apply to the third option, where HCFA attributes the utilization of a group of beneficiaries to COGs.

[23] It might be possible to assign beneficiaries to COGs after the fact, that is, total expenditures could be tallied after a particular year is over. Beneficiaries who used the COG regularly during the year could be assigned membership simply for purposes of calculating whether the COG met growth targets. One advantage of this system is that since a COG would not know with certainty who was a member, it would be more difficult to treat member patients differently. Conversely, if medical groups knew which of their patients were not in the COG, they might provide a greater volume of services to such patients, because this would increase revenues but not count towards the group performance standard. It is still not clear, however, how nonusers would be distributed among competing COGs.

Finally, one problem with both the second and third methods is that beneficiaries would have little or no choice in whether they wish to be a COG member. This is not true of patients in Medicare HMOs, for instance, who consciously decide to be a part of an organization that operates under a financial incentive to conserve medical resources. Ethical issues arise if patients are assigned COG membership because, like HMOs, COGs will have a financial incentive to control volume.

Out-of-Group Services

Unlike beneficiaries in Medicare HMOs, those in COGs would not be locked into their provider groups. If they received services by providers outside of their group, Medicare would still pay for these services. This raises the issue of how such services would be treated in a carve-out system.

Two options regarding services received outside of COGs by beneficiaries are:

- exclude outside services when evaluating group performance, or

- include outside services when evaluating group performance.

Of the two options, the latter is clearly superior. If outside services were not counted toward the group's performance standard, there would be a financial incentive to refer cases to outside physicians. This would reduce the group's actual rate of growth in volume and thus help it obtain a higher fee update. Aside from the associated problems with continuity of care, this would compromise the budgetary objectives of the system: Medicare would pay higher fee updates to COG physicians even though total volume had not declined.

Despite its superiority, there are two problems with including outside services in the group performance standard. First, the group would have a financial incentive to avoid necessary referrals. As discussed above, it would be necessary for COGs to establish reliable quality assurance procedures to ensure that patients receive necessary care. Second, if patients did use a substantial number of out-of-group services, the COG would have an incentive to disenroll these members.[24]

---

[24] The second problem would not apply to the last of the three membership options, in which HCFA attributes the utilization of beneficiaries to COGs.

Criteria for Evaluating Group Performance

There are three options for evaluating the performance of a COG under the VPS system:

- use the national performance standards,
- establish group performance standards based on local utilization, or
- establish group performance standards based on enrollees' prior utilization.

Again, there are problems with each of these methods. The first arrangement--using the same performance standards as employed nationally--would lock in historical utilization rates. For example, suppose that volume in an area is already 50 percent higher than the national average. If a COG were given the national performance standard, say 10 percent, then it would receive its full Medicare Economic Index update if it were able to keep expenditure increases to this level, thus perpetuating historical utilization patterns. Similarly, COGs in low-utilization areas would also be locked in. This is contrary to the purpose of the VPS system, particularly in light of the fact that it is easier to control utilization growth in areas that already have high levels.[25]

Taking into account local utilization in establishing a COG's performance standard could help. COGs in areas with high volume or expenditures (adjusted for such factors as age, sex, and welfare status) could be assigned lower performance standards to account for otherwise unexplained volume in that area. This, in turn, would break the linkage between historical utilization levels and future expenditures. Determining the appropriate performance standard in different areas would be a major undertaking, however. This would involve making judgments concerning whether areas with high utilization should have lower performance standards for some reason (for example, that they are truly less efficient as opposed to having a sicker case mix). This is the same problem that was discussed in Chapter 12 in the context of state-level performance standards.

The final option would be to use the prior utilization of beneficiaries in the COG to determine the group's performance standard. If beneficiaries in the COG have high utilization during a baseline period (adjusted for the above factors), then the group would not be permitted as large a performance standard as permitted under the national VPS system. There are three problems with such a system, however. First, it is not possible to judge whether high volume is the result of unnecessary use of services or indicates the presence of unmeasured differences in health status. Second, because a COG may have relatively few Medicare beneficiaries, estimates of historical volume or expenditures are likely to be subject to a great deal of variance. Finally, it is not clear how performance standards in subsequent years would be set. Using beneficiaries' pre-VPS utilization might work during the first few years, but over time its predictive power would weaken. However, using post-VPS utilization would also be a problem. Subsequent performance standards would be based, in part, on the COG's response to its performance standard rather than to some objective measure of medical care needs in the community.

---

[25] Commission simulations show that one of the major determinants of expenditure growth is the baseline utilization level of an area. States with lower utilization have higher rates of expenditure growth, and conversely, those with higher utilization have lower rates. Over the period from 1981 to 1987, for example, annual expenditure growth was almost two percent higher among states that began with service volumes 25 percent or more below the national average.

Finally, no matter how performance standards are set, the small numbers of beneficiaries in COGs will cause problems. To evaluate a group's performance under a carve-out system, it is necessary to compare the group members' expenditure growth rate to the performance standard. But Medicare data show a great deal of unexplained variation for small groups. According to Commission analysis of Part B Medicare Annual Data (BMAD), a group with 1,000 beneficiaries would have a 50/50 chance that its annual Part B expenditures would differ from predicted expenditures by 6 percent, due solely to chance variations in health care service use. For a group of 5,000 beneficiaries, the figure would be about 3 percent. Such errors might swamp whatever fee updates are to be provided to physicians under the VPS system. One possible method of lessening this problem would be to devise a system where outliers (that is, beneficiaries with particularly high utilization) were removed from the calculation of group performance. Another would be to establish a minimum size for COGs, as discussed below.

Physician Participation

In some types of COGs the issue of physician participation does not arise. For example, if a group practice decides to form a COG, it would be natural to assume that all physicians in the group would participate. The issue does arise, however, when a group of physicians without a history of practicing together wishes to form a COG. One example of this would be a group formed by a county medical society.

There are two alternative methods of dealing with physician participation in such a situation:

- o all physicians in the society must agree to participate in the COG, or

- o physicians in the society individually can choose to participate in the COG.

The advantage of allowing COGs to form even if all members of the medical society do not participate is purely pragmatic: it would allow more groups to become COGs. It is difficult to envision that most county medical societies would be able to secure membership from all physicians.

Nevertheless, there are some problems associated with allowing voluntary physician participation. The purpose of having a carve-out system is to control expenditure increases in part by fostering a cooperative attitude among physicians. Even if a member would lose revenue by avoiding the provision of services of little or no value, he or she could gain if the entire group adopted this attitude. If participation were voluntary within the group, however, there would be less of a group sense to cooperate in this fashion, and consequently, the mechanism to control expenditures would be diluted.

A more tangible disadvantage concerns the establishment of group performance standards. If some members of a group join a COG and others do not, it is not clear how to set the group standard. One possible method, totaling previous beneficiary utilization for all patients in the county and attributing a percentage to the COG based on the proportion of county physicians who join the group, probably would not be adequate because COG physicians would be unlikely to have the same case mix as other physicians.

Quality Assurance

Two methods (not mutually exclusive) of helping to ensure quality of care under a carve-out system are:

- require a minimum number of physicians in each group, and
- apply HMO quality assurance requirements to groups.

A major purpose of allowing carve outs from a VPS system is that small groups of physicians may be able to control their own group's volume of services. In doing so, group members would receive a financial reward in the form of higher fee updates. This incentive, however, could affect the quality of care provided if beneficiaries in the group were underserved.

Requiring a minimum number of physicians to be in each COG might help ensure quality by diluting the linkage between any one physician's performance and his or her subsequent fee updates. Applying HMO (or other) quality assurance standards also would help ensure that the process of providing care is consistent with quality standards.[26] However, effective quality review mechanisms in HMOs are only now beginning to take shape. Since many COGs would not even have centralized record keeping or uniform clinical data, implementing these systems would appear to present serious technical difficulties. In general, few multispecialty group practices and county medical societies currently would appear to have the experience and capability to conduct quality assurance activities necessary in a carve-out system.

---

[26] To qualify as a Medicare at-risk HMO, an organization has to meet a set of formal standards that include provisions for internal quality review. HMO care is also reviewed by PROs, which examine each plan's internal quality assurance program and perform reviews of hospital admissions and specified "focused ambulatory care."

REFERENCES

Adamache, K.W. and L.F. Rossiter, "The Entry of HMOs Into the Medicare Market: Implications for TEFRA's Mandate," *Inquiry* 23(4): 349-64, Winter 1986.

Gold, M. and S. Palsbo, *Modifications to the Current Method of Rating for Medicare Risk Contractors: Issues*, discussion paper, Washington, D.C.: Group Health Association of America, November 1989.

Group Health Association of America, *HMO Industry Profile: Utilization Patterns, 1988 edition*, Washington, D.C., June 1988.

Group Health Association of America, *HMO Fact Sheet*, Washington, D.C., December 1989.

InterStudy, *The Interstudy Edge Supplement*, Excelsior, MN: InterStudy, 1988.

Langwell, K. and J. Hadley, *National Evaluation of the Medicare Competition Demonstrations: Summary Report*, prepared for the Health Care Financing Administration, Baltimore, MD, 1989.

Luft, H.S., *Health Maintenance Organizations*, New York: John Wiley, 1981.

Manning, W.G., A. Leibowitz, G.A. Goldberg, et al., "A Controlled Trial of the Effect of a Prepaid Group Practice on Use of Services," *New England Journal of Medicine* 310(23):1505-1510, 1984.

Milliman and Robertson, Inc., *Actuarial Review of the AAPCC Methodology*, Washington, D.C., July 1987.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989.

Rossiter, L.F. and K.W. Adamache, "Reconfiguration of the Geographic Adjustment Factor in the AAPCC Formula," *Journal of Risk and Insurance*, forthcoming, 1989.

Sloss, E.M., E.B. Keeler, R.H. Brook, et al., "Effect of a Health Maintenance Organization on Physiologic Health: Results from a Randomized Trial," *Annals of Internal Medicine* 106: 130-38, 1987.

U.S. Congress, Committee on Government Operations, *Medicare Health Maintenance Organizations: The International Medical Centers Experience*, HR 100-568, Washington, D.C.: U.S. Government Printing Office, April 1988.

U.S. Congress, Senate Special Committee on Aging, *Medicare and HMOs: A First Look, With Disturbing Findings*, Washington, D.C., April 7, 1987.

U.S. Department of Health and Human Services (DHHS), *HCFA Recommendations on AAPCC and ACR*, Report to Congress, Washington, D.C., January 1988.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, Office of Research and Demonstrations, *Conceptual Piece on Alternatives to FFS as a Base for Medicare HMO Premium Setting*, a request for proposal, Washington, D.C., 1989.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, Office of Prepaid Health Care, *Medicare Prepaid Health Plans*, monthly report, February 1990.

U.S. General Accounting Office (GAO), *Issues Raised by Florida Health Maintenance Organization Demonstrations*, GAO HRD-86-97, Washington, D.C., July 1986.

U.S. General Accounting Office (GAO), *Increase in HMO Reimbursement Would Eliminate Potential Savings*, GAO HRD-90-38, Washington, D.C., November 1989.

Ware, J.E., et al., "Comparison of Health Outcomes at a Health Maintenance Organization with Those of Fee-For-Service Care," *The Lancet*, 1017-22, May 3, 1986.

CHAPTER 14

THE FEDERAL GOVERNMENT'S ROLE UNDER VOLUME PERFORMANCE STANDARDS

Under the Medicare Volume Performance Standard (VPS) system, the medical profession is given primary responsibility for slowing the growth of expenditures by reducing services of little or no benefit to Medicare enrollees. Physicians and their organizations can respond to volume performance standards by becoming more involved in effectiveness research, in the development and dissemination of practice guidelines, and in peer review. The success of the VPS policy in containing costs through reducing unnecessary services will depend in large part on the efforts of the medical profession. The federal government will play a key role in developing information to help the medical profession meet this challenge.

The Omnibus Budget Reconciliation Act of 1989 (OBRA89) expands the responsibilities of the Department of Health and Human Services (HHS) in developing information on the use and effectiveness of medical services. The legislation markedly increases federal support for research to determine what is effective and appropriate for patients, and for development of practice guidelines and other tools to help physicians and reviewers apply this knowledge. This work, and the new Agency for Health Care Policy and Research (AHCPR) established to support and direct it, was described in Chapter 2.

The payment reform legislation gives HHS and its contractors new responsibilities for providing information about current patterns and trends in utilization of services and access to care. The Secretary is required to report to Congress annually on changes in utilization and access to services within geographic areas, categories of services and beneficiary subgroups, and on possible sources of inappropriate utilization of services and factors underlying these patterns. The Secretary is also to report quarterly to Congress on compliance with target rates of increase in expenditures under VPS. This information will also be useful to the medical profession in directing its own efforts to identify and reduce unnecessary services.

The legislation requires carriers to monitor and profile physicians' billing patterns within each locality and to provide comparative data to those physicians whose utilization patterns vary significantly from those of their peers. This requirement substantially expands carrier responsibilities and gives them a key role in the implementation of VPSs. Unfortunately, the carriers' budgets for medical review activities have been unstable and generally inadequate. The Commission believes that the process for establishing carrier budgets should account for both the volume of claims and administrative costs, including those for the utilization review, monitoring, and reporting functions required under a VPS system.

RECOMMENDATIONS

The Department of Health and Human Services should give priority to developing systems for profiling physician practices and disseminating information on patterns of service utilization to researchers, professional organizations, individual physicians and the public. AHCPR's Office of the Forum for Quality and Effectiveness should develop valid and reliable methodologies for profiling and reporting physician practice data that can be used by HCFA, carriers, Peer Review Organizations (PROs), intermediaries, and professional medical organizations in utilization and peer review programs.

HCFA and carrier budgets need to be adequate to support the expanded data monitoring, analysis, and dissemination requirements of a VPS system. Changes in the Congressional budget process may be required to ensure that funding for program administration adequately reflects the effort involved in supporting entitlement benefits.

Because carrier data reporting and dissemination activities are important to the success of Medicare Volume Performance Standards, they should be explicitly considered in carriers' performance evaluations.

As these programs develop over the next several years, they will markedly increase the data and information available on clinical practice, access, and utilization. There will be an opportunity (and the necessity) to develop and refine methods of collecting, assembling, and presenting the information so that it meets the needs of those who will use it. There will be a greater need for coordination among the involved parties--HCFA, PROs and carriers, the Joint Commission on Accreditation of Healthcare Organizations, medical professional organizations, and the providers themselves--to make the best use of this information to improve the quality and efficiency of care without unnecessary duplication of effort and increasing administrative cost.

This chapter describes the specific responsibilities of the Medicare program to monitor and review utilization and expenditures created by the physician payment reform legislation. It then reviews specific program activities in the areas of utilization review and feedback that will be needed under a VPS system. The chapter concludes with a description of the responsibilities of the Commission in the VPS system.

MONITORING UTILIZATION AND ACCESS UNDER VOLUME PERFORMANCE STANDARDS

The Department of HHS has several new responsibilities to monitor utilization and expenditures under the Volume Performance Standard system. These include:

- monitoring and reporting on volume and expenditures for physician services,
- analyzing changes in the utilization of and access to physician services, and
- identifying unusual patterns of utilization by individual physicians and notifying them of possible problems related to unnecessary or inappropriate care.

There is a need to develop better methods to accomplish each of these activities if the desired improvements in medical practice are to be realized.

Monitoring Volume and Expenditures

OBRA89 specifies that the Secretary of HHS report quarterly to the Commission, the Congressional Budget Office and Congressional Research Service, the House Committees on Ways and Means and Energy and Commerce, and the Senate Finance Committee on compliance with the performance standard rates of increase in physician services. The law does not specify whether or in what manner these reports are to be released to private organizations or the public. Given the nature of the claims data (there are often wide fluctuations in the volume of claims processed over short periods of time, as discussed in Chapter 12), these reports will have to be viewed cautiously. Nevertheless, it will be important for all interested parties to see the data and have an opportunity to comment on them. Only then can they react productively to unanticipated and unexplained increases in volume.

The experience of health care systems that have adopted programs to control expenditures for physician services may provide useful lessons for Medicare and merit further study. In the West German system, for example, detailed quarterly reports on volume are used by insurance funds to make retroactive adjustments to the conversion factor that is used to translate relative values for services billed by physicians into payments (U.S. Congress, 1989). In Canadian provinces where expenditure target systems have been introduced, data on volume and expenditures are monitored closely. Summary information is generally provided directly to physicians on a quarterly basis. German and Canadian approaches to monitoring cost and utilization data and feeding back information to physicians on practice patterns and utilization problems are described in Appendix D.

Analyzing Utilization Trends

OBRA89 requires the Secretary to report annually on the utilization of and access to physician services. The report is to include data on changes in utilization and sources of inappropriate utilization within geographic regions, population groups, and service-related categories. As discussed in Chapter 11, these analyses will require both longitudinal and cross-sectional examinations of claims data. HCFA will also need to collect additional information on beneficiary access to care and out-of-pocket costs. The Current Beneficiary Survey conducted by HCFA's Office of the Actuary will be the primary vehicle for collecting these data.

The Secretary must monitor the charges of nonparticipating physicians to identify unintended increases in beneficiary financial liability (Chapter 10). Such increases could impair beneficiary access to care. Beginning in 1992 the Secretary will report annually to the Congress on changes in the proportion of charges (by specialty, type of service, and geographic area) that are billed by nonparticipating physicians, as well as the proportion actually taken on assignment (regardless of participation status). If significant decreases in participation or assignment are found, the Secretary is required to submit a plan to remedy the problem. The claims data system will provide most of the information needed for this task, but it must be supplemented by survey data (Chapter 11).

Profiling Physician Practice

OBRA89 requires carriers to "monitor and profile physicians' billing patterns within each area or locality." They must provide comparative data to physicians whose utilization patterns vary significantly from their peers in the area. These activities will build upon carriers' existing postpayment review methods. If profiling activities are to be effective in controlling excessive utilization, carriers must also draw on the experience and resources of PROs, other medical organizations, and the research community.

Carrier Postpayment Profiling. Postpayment reviews were initially designed to help identify fraudulent or abusive practices. The reviews are based on analysis of local provider practice patterns. Guidelines for conducting these reviews are included in the Medicare carrier manual. Specifically, carriers are encouraged to array data by specialty group across a wide range of categories (for example, office visits, hospital visits, injections, and consultations) for comparison. Typical patterns of physician activity are established using various analytic techniques. Statistical tools are then used to identify a group of physicians for more detailed review. HCFA suggests that 3 percent of all the providers submitting bills to a carriers (those who are most likely to have abused the Part B benefit based on initial profiling) should receive subsequent review.[1]

Under the Freedom of Information Act, carriers may release profiles of physicians' customary and prevailing charges, but all provider identification must be deleted. Current regulations do not permit releasing data on submitted charges. Privacy restrictions also prohibit carriers from publicly releasing information on the number of procedures billed by individual physicians. The profiling information is, however, available to government organizations responsible for program oversight and to licensure bodies.

It is not yet clear whether the postpayment review system will provide an adequate foundation for the monitoring and feedback needed in a VPS system. HCFA's requirements for postpayment review were substantially revised in 1988, in response to growing criticism that the reviews were neither productive nor well administered.[2] The lack of effectiveness may in fact have diverted interest from the issue of physician profiling. Carriers have consistently generated greater savings from prepayment claims reviews, so HCFA placed relatively little emphasis on these reviews in setting contractor priorities.

Given the increased importance of profiling and data analysis activities under a VPS system, the Commission believes that closer oversight of these activities is necessary. Carrier postpayment review activities, including profiling and feedback programs should be explicitly included in their performance evaluations.

It is encouraging that HCFA is now beginning to work with carriers to investigate new approaches to postpayment reviews. The agency has also increased its efforts to identify promising approaches already in use. Some of these could contribute to a base of expertise from which to improve and expand physician profiling. Blue Shield of Massachusetts, for example, designed its own postpayment review system, which appears to yield significant program savings. Its approach focuses on targeting a very small number of physicians for postpayment review based on its initial analysis of utilization patterns of selected providers with high Medicare earnings.[3]

---

[1] Those providers identified for review by carrier profiles make up what is commonly referred to as the initial three percent investigation list (ITPIL). If the unusual billing patterns cannot be explained by local market conditions or known factors, the carrier may initiate broader investigations. They may request information from medical records or from peer review committees, the state Medicare PRO, licensure organizations, and so forth. When utilization is found to reflect patterns of unnecessary, inappropriate or substandard quality care, carriers are required to initiate corrective actions. Sanctions can include intensified review of the physician's claims, fines, or even removal from the Medicare program. They may also include education and counseling or referral to professional organizations or to the state licensure body for disciplinary action. See U.S. GAO, 1988.

[2] For example, a 1988 report by the HHS Inspector General procedures found that post-payment review functions were outdated and are not applied by carriers as intended by HCFA in all instances (DHHS, 1988).

Private sector expertise available to Medicare carriers also needs to be tapped.[4] A notable example is the statewide utilization review program developed by Blue Shield of Pennsylvania. The program provides feedback about peer group practice patterns and service costs, coupled with financial penalties for persistent overutilization.[5] A study of the effects of the program on two specialties, internal medicine and podiatry, showed that substantial changes in total billed charges per subscriber could be attributed to an initial letter indicating that utilization patterns were significantly higher than peer rates. The effects of the next two levels of intervention, audit and refund, were similar but less striking than those of the letter (Schwartz et al., 1989).

Peer Review Organization Physician Profiling. PRO utilization review efforts have been designed to assess the medical necessity and appropriateness of entire hospital stays and ambulatory surgery encounters. PROs are required to profile both physician practice patterns and patterns of service utilization in individual hospitals. One type of profiling consists of compiling data on the activities of physicians with prior utilization or quality problems. In addition, PROs are required to compile a set of statistics on hospital and physician activity. These are used to identify unusual patterns of utilization or adverse patient outcomes.[6]

The current PRO scope of work encourages contractors to produce profiles based on their knowledge of local utilization patterns, but certain basic profiling activities are required of all PROs. In addition to profiles of outpatient surgery utilization in hospitals and ambulatory surgical centers, PROs compile 14 specific profiles of hospital activity on a regular basis. These include profiles of length of stay per diagnosis-related group per quarter, frequencies of specific diagnoses selected by the PRO, and readmission rates. Required physician profiles include denial rates per admission and readmission, mortality rates, applicable findings from specific quality of care reviews and admission reviews, and length of stay for premature discharges.

---

[3] Unpublished data obtained from the U.S. General Accounting Office (GAO) showed that in one year (1986) the methods developed by Massachusetts Blue Shield identified $704,032 in overpayments for 29 providers, or an average of $20,115 for each of the 35 reviewed.

[4] Other approaches to profiling and feedback have been developed for use in large group practices and managed care systems. The Cornell Medical practice, for example, has had a computerized physician practice profiling program in place since 1982 (Braham and Ruchlin, 1987).

[5] Providers with more than 30 patients and more than 50 services during a given six-month period were assigned to a peer group based on specialty, practice location, and mode of practice (that is, group versus solo). Frequencies of services each provider billed per subscriber above the 95th percentile of those billed within each peer group were used to estimate the total charges that provider billed. If total estimated charges exceeded $5,000, the provider was classified as a high utilizer of that service. A letter was then sent to inform the provider of his utilization relative to the pattern of similar providers. Providers were selected for subsequent audit if they continued to be high utilizers of service despite receipt of a letter. Providers were also selected for audit based on patient complaints of suspected fraud, high actual charges relative to other providers, and other statistical techniques defined by Blue Shield or Medicare. If the audit and peer review showed that overutilization occurred, a refund was obtained from the provider.

[6] These profiles are generally used to identify providers (physicians and hospitals) whose reviewed cases fall outside two standard deviations of the norm on various measures.

HCFA encourages PROs to share information with the physician community, but there are no requirements for reporting summary information from physician profiles. In fact, PROs are not required to maintain quarterly profiles in a hard copy form. They must, however, provide copies of their own profiles to hospitals or individual physicians upon request. PROs can participate in cooperative health statistics systems, but they may not release any data that identifies individual physicians or patients to these systems. Like carriers, PROS are prohibited from releasing information that publicly identifies individual physicians.

Formal PRO review procedures are evolving rapidly. HCFA and the American Medical Review Research Center (AMRRC) have initiated a set of demonstration and pilot projects designed to streamline and improve the peer review process. One project sponsored by HCFA that uses physician profiling to influence practice patterns integrates small area analysis into the PRO review process. PROs are using these techniques to develop model education programs in which they work with state medical societies and other physician and hospital groups.[7] For this project every state is divided into small areas by zip code. The use of certain medical practices is then analyzed for each area. Specialized computer software helps PROs show local medical communities the variations in procedure rates in the state (Morford, 1989).

HCFA is also exploring the feasibility and utility of incorporating a uniform clinical data set and electronic screening methods into the PRO reviews[8]. The goal is to identify key health indicators (clinical signs, symptoms, test results, and so forth) from medical records and include these in the claims data screened by PROs. This clinical information could provide a basis for more efficient targeting of cases that warrant in-depth medical review (Morford, 1989).[9] The data set could also be very useful for tracking medical practice and patient outcomes.

---

[7] This approach is quite similar to a the Maine Medical Assessment Program organized in 1980 by the Maine Medical Association with the support of the Commonwealth Fund and the Robert Wood Johnson Foundation (Caper et al., 1986).

[8] HCFA, the American Medical Association, and the American Hospital Association are represented on the Uniform Clinical Data Set Task Force.

[9] PROs have come under considerable criticism because a large proportion of the cases initially selected for review are ultimately found to meet PRO standards for appropriateness and quality (Morford, 1989; U.S. GAO, 1989a).

MEDICARE UTILIZATION AND QUALITY REVIEW UNDER VOLUME PERFORMANCE STANDARDS

The Commission has three related concerns about the ability of carriers and PROs to provide the support physicians need in a VPS system. First, carrier and PRO medical review activities, including physician profiling, need to be better coordinated. The Medicare program should deliver a consistent message about utilization and medical practice to the physician community. Second, practice profiling needs to be a permanent, integral part of Medicare operations. This requires adequate and stable funding. Finally, practice profiling methods must be credible and effective. Determining what aspects of practice to profile and monitor, designing reliable and valid profiling methods, developing sound methods for disseminating practice data, and incorporating new knowledge from the profiles into medical review systems will require a significant research commitment by HHS.[10]

Coordinating Medical Review

In its 1989 report to Congress, the Commission made a series of specific recommendations to structure and focus the transition from the current system, which has emphasized claims payment, to one emphasizing comprehensive review (PPRC, 1989). The key elements of these recommendations include:

- requiring that HCFA, carriers, and PROs work together to delineate the future role PROs will play in reviewing care physicians provide in office settings;

- making HCFA responsible for establishing procedures to involve both carriers and PROs in designing criteria for utilization and quality review, conducting physician profiling activities, and investigating physicians with questionable billing or clinical practices;

- ensuring that PROs and carriers consult with appropriate medical organizations when developing medical review criteria; and

- designating a single entity to support research, demonstrations, evaluations, and technical assistance in quality and utilization review for the carriers, intermediaries, and PROs.

---

[10] A study by the Institute of Medicine (1990) recently proposed a comprehensive reorientation and restructuring of Medicare's quality assurance system. The Commission was not able to review thoroughly the proposal before this report was written, but many of the goals of the suggested reform appear to be similar to the objectives articulated by the Commission in this area.

The Commission is pleased that HCFA has informed carriers that it is committed to working with the physician community.[11] Further, the agency has indicated that it plans to establish a PRO-carrier network for the routine coordination of medical review data and program planning. The Commission urges HCFA to also move quickly to ensure that PROs and carriers coordinate their efforts to profile physician practice patterns.[12] In addition, HCFA and AHCPR need to work together and with the medical community to identify effective ways to disseminate information on utilization patterns to physicians and the public.

Improving the Quality of Medical Review

The Commission believes that improvements in the methods used in carrier and PRO utilization and quality review would greatly facilitate positive responses to VPS. To be credible, these methods should be thorough, consistent, empirically valid, and cost-effective. HHS should therefore give priority to developing systems for profiling physician practices and disseminating information on patterns of utilization of services. AHCPR's Office of the Forum for Quality and Effectiveness should work closely with HCFA and its contractors (carriers, intermediaries, and PROs) to develop valid and reliable criteria, as well as methodologies for profiling and reporting physician practice data. Existing methods for reviewing claims, profiling medical practice, and feeding back information to physicians need to be evaluated and refined as necessary. But it will also be important to learn how the different aspects of medical review can be integrated into a more streamlined, less intrusive approach to review.

Carrier Budgets

HCFA and carrier budgets need to reflect the expanded data monitoring, analysis, and dissemination requirements of a VPS system. Unfortunately, lack of funding for medical review could cripple efforts to improve carrier medical review systems. Budgets for carrier operations have not kept pace with the increase in the volume of claims (U.S. GAO, 1989b). The Commission has raised concerns about carrier funding in each of its previous reports to the Congress (PPRC, 1987, 1988, 1989) and believes that the shortfall has become more serious over time. Provision of adequate funding may require some adjustments in the Congressional budget process.

---

[11] A 1989 HCFA memorandum to carriers stated: that "As medical review policies serve as the basis for payment from a medical necessity perspective, it is important that physicians participate in their development and have a clear knowledge and understanding of these policies." (HCFA, *Medicare Carriers Program Memorandum Transmittal No. B-89-12,* Washington, D.C., 1989.)

[12] For example, the Administration's budget proposal for fiscal year 1991 includes a provision to expand carrier authority to include prior authorizations for medical care. The U.S. General Accounting Office (GAO) has recently recommended that HCFA expand PROs' use of prospective reviews (that is, prior authorization or second opinion programs) (U.S. GAO, 1989a). These programs are widely believed to be more cost effective than many of the retrospective reviews currently being done. Currently, only PROs are authorized to conduct these reviews. Expanding prior authorization reviews to carriers would require the development of the same types of review and appeal systems PROs already have in place. This could lead to increasingly redundant and possibly inconsistent review requirements.

Because Medicare is an entitlement program, spending for medical services depends on how many individuals meet eligibility requirements and the amount of services that are delivered to them. Thus if claims increase, spending for benefits automatically increases. Administrative expenses for Medicare, however, are not part of the entitlement but are a discretionary budget item. Medicare program administration must compete for funding with all other non-defense discretionary programs, such as the National Institutes of Health, education, or housing programs. The result is that Congress must often choose between funding Medicare administration--an activity that is essential to the program fulfilling its mission and that often saves benefit dollars--and funding other domestic programs.[13]

The solution may lie in changing the budget process. For example, the baseline level of spending for program administration (the starting point in the budget process) could be revised to reflect not only the effects of general inflation but increases in the volume of claims to be processed. In this way, keeping up with rising claims volume would not be treated as a spending increase, and would not require cuts in other programs.

Another potential change would be to include the results of medical and utilization review in budget decisions. Analysis suggests that each additional dollar spent on carrier medical and utilization review saves Medicare at least five dollars (U.S. DHHS, 1989).[14] The budget scorekeeping system could also be revised so that increased funding for review is not counted against the allotment for non-defense discretionary programs. Finally, program administration could be provided with the same protection from sequestration under the Gramm-Rudman-Hollings law that is afforded to payments to hospitals and physicians--a maximum reduction of 2.3 percent.

THE COMMISSION'S ROLE UNDER VOLUME PERFORMANCE STANDARDS

OBRA89 gives the Commission specific tasks in the VPS system. As discussed in Chapter 11, the Commission is required to review HHS recommendations on both the performance standard rates of increase and fee updates. The Commission must report its findings and recommendations to the Congress by May 15 of every year, beginning in 1990. It is also required to review annual HHS reports on the utilization of Medicare services. The legislation specifically requires the Commission to convene a panel of physician experts to evaluate the implications of changes in medical utilization patterns for the quality of and access to patient care.

---

[13] Because carriers' primary obligation is to process and pay claims, medical review has often been among the first targets for budget reductions. The Blue Cross and Blue Shield Association testified before the Commission that their Medicare contractors across the country lost over 600 positions for fiscal year 1990 because of inadequate funding for the claims review staff (Blue Cross and Blue Shield, 1990).

[14] The administration's budget proposal for fiscal year 1991 provides for $110.8 million for carrier medical review, while anticipating $760.0 million in savings from the reviews--or savings of $6.86 per dollar spent (DHHS, 1990).

The Commission believes it will be important to include researchers, beneficiaries, and other interested parties, such as carriers, PROs, and third-party payers, in this process. To inform the process, the Commission will need to compile and analyze utilization data from Medicare claims files, data on beneficiaries' access to care, and all available information on the nature and extent of inappropriate or ineffective use of services. This will require the Commission to work closely with AHCPR as well as with HCFA. The information from all available sources will be reviewed by the Commission and an expert panel convened by the Commission. All relevant materials will be published.

REFERENCES

Blue Cross and Blue Shield Association, Statement before the Physician Payment Review Commission on Payment Reform Issues in the 1990 Report, Washington, D.C., January 17, 1990.

Braham, R. and H. Ruchlin, "Physician Practice Profiles: A Case Study of the Use of Audit and Feedback in an Ambulatory Care Practice Group," *Health Care Management Review* 12(3):11-16, 1987.

Caper, P., R. Keller, and P. Rohlf, "Tracking Physician Practice Patterns for Quality," *Business and Health*, 3(11):7-9, September 1986.

Institute of Medicine, National Academy of Sciences, *Medicare: A Strategy for Quality Assurance*, Washington, D.C.: National Academy Press, March 1990.

Morford, T., "Federal Efforts to Improve Peer Review Organizations," *Health Affairs*: 175-88, Summer 1989.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1987*, Washington, D.C., 1987.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1988*, Washington, D.C., 1988.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989.

Schwartz, J., S. Williams, D. Kitz, et al., "Effectiveness of a Statewide Utilization Review Program," unpublished paper, Philadelphia: Section of General Medicine and the Center for Research in Day Surgery, School of Medicine and the Leonard Davis Institute of Health Economics, University of Pennsylvania, 1989.

U.S. Congress, Congressional Research Service, *Prospective Budgeting for Medicare's Physician Service*, 89-600 EPW, prepared by F. Cahill, J. Reuter, K. Langwell, et al., Washington, D.C., October 31, 1989.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, *Justification of Appropriations Estimates for Committee on Appropriations, Fiscal Year 1991*, January 1990.

U.S. Department of Health and Human Services (DHHS), Health Care Financing Administration, Statement of Terry Coleman, Acting Administrator, on Medicare Contractors, before the Subcommittee on Labor, HHS, and Education, Committee on Appropriations, and United States Senate, Washington, D.C., February 28, 1989.

U.S. Department of Health and Human Services (GAO), Office of the Inspector General, *Medicare Carriers' Performance of Program Integrity Functions*, Washington, D.C., August 1988.

U.S. General Accounting Office (GAO), *Medicare: Improving Quality Assessment and Assurance*, GAO/PEMD-88-10, Washington, D.C., May 1988.

U.S. General Accounting Office (GAO), *Medicare: Improvements Needed in the Identification of Inappropriate Hospital Care*, GAO/PEMD-90-7, Washington, D.C., December 1989a.

U.S. General Accounting Office (GAO), Statement of Michael Zimmerman, Director, Medicare and Medicaid Issues, Human Resources Division, on Medicare Contractors, before the Subcommittee on Labor, HHS, and Education, Committee on Appropriations, and United States Senate, Washington, D.C., February 28, 1989b.

CHAPTER 15

LEGAL IMPEDIMENTS TO PHYSICIAN EFFORTS TO INCREASE APPROPRIATENESS OF CARE

In its 1989 report to Congress, the Commission recommended that the federal government increase its support for the development and use of practice guidelines, and that the medical profession take primary responsibility for these activities. In the Omnibus Budget Reconciliation Act of 1989 (OBRA89), Congress established the Agency for Health Care Policy and Research (AHCPR) and directed it to support the development of practice guidelines. Nevertheless, much of the responsibility for developing, disseminating, and using practice guidelines lies with the medical community.

In response to the need to improve quality and reduce unnecessary services, medical professional organizations have accelerated their development of practice guidelines. Some, however, maintain that they risk antitrust suit for such activities, and that guidelines would increase malpractice suits against practicing physicians.

The Commission has examined these questions and consulted experts in the legal profession. It has concluded that the risk of antitrust suit for a medical professional organization that develops and disseminates guidelines is slight as long as the organization follows reasonable, straightforward procedures. Practice guidelines will not increase physicians' exposure to malpractice liability litigation, and guidelines may enable physicians to reduce their existing risks. In particular, the finding of negligence is likely to be made more accurately. Insofar as the use of guidelines improves medical practice, the actual incidence of substandard practice will be lower.

The Commission has also begun to examine the medical tort liability system. More research and better practice guidelines are likely to improve the way the medical tort liability system works. However, it will continue to be expensive and fail to compensate most people who are injured through substandard medical practice, while leaving practicing physicians fearful of liability suit. The Commission will examine the medical tort liability system and the many proposals that have been offered to reform or replace it with alternative ways to compensate patient injury and deter substandard practice.

MALPRACTICE AND PRACTICE GUIDELINES

Physicians and their professional organizations are concerned that practice guidelines may increase their risk of being sued for malpractice and of being found negligent in court. They fear that a guideline will be used against them whenever they appear to deviate from it, even when it is appropriate medical practice to do so. These concerns may make physicians and their organizations less willing to develop guidelines.

The section first focuses on these risks, beginning by explaining how guidelines will be used in court to determine whether a physician was negligent. The section then presents a broader look at medical malpractice and the tort liability system. The Commission has reached these conclusions:

- Development and use of sound practice guidelines will not increase physicians' exposure to malpractice liability. Guidelines are likely to enable physicians to reduce their existing risks.[1]
- Well-designed guidelines and review criteria will decrease the incidence of substandard care and will help courts more accurately judge whether a physician was negligent. They will also help injured patients and their attorneys determine whether they have grounds for a malpractice suit.
- Although guidelines will improve the level of medical care and the accuracy of court determinations of negligence, the medical tort liability system will continue to be expensive and will not fairly compensate and redress injury from medical negligence or deter substandard practice.

These deficiencies suggest the need for major reform of the medical malpractice system or for alternative methods to redress injury from medical negligence and to deter negligent practice. However, there is no consensus about which changes should be made (U.S. GAO, 1987; Jacobson, 1989).

---

[1] Medical societies that develop guidelines may expose themselves to tort liability if poorly crafted guidelines lead to injury. However, this risk is small and can be further minimized by following proper procedures in developing the guidelines (American Medical Association, 1990).

The Commission plans to learn more about the medical tort liability system during the coming year. A number of studies now under way will increase the understanding of the present system and the value of proposed reforms and alternatives to it.[2]

Determination of Negligence and the Standard of Practice[3]

The legal determination of malpractice is made in court through structured legal proceedings. A patient who is injured in the course of medical care may allege that the injury resulted from substandard medical practice (negligence in legal terms) by a physician or other provider.[4] The court must determine whether the care of the injured patient met the applicable standard of practice. In doing so, the court must determine what standard of practice applies.[5]

Practice guidelines will be used to establish the standard of practice, but will not automatically determine what the standard is. Guidelines will be part of the evidence presented to the court through expert testimony. The court will determine whether the guideline is relevant and what weight it should be given. A guideline that is so widely accepted that it has achieved the status of a clinical standard--so that deviation from it is presumptive evidence of substandard care--may be very persuasive to a jury, but the jurors must be persuaded through expert testimony. In some cases, the jury may be asked to weigh competing guidelines from different sources.

The weight given to a guideline is likely to depend on its source, the process used to produce it, whether it is clear and specific, and its nature and purpose. For example, a guideline developed by a respected professional body is likely to be accorded more weight than a guideline from an individual or a body that has little expertise in the area. A guideline developed with a well-designed scientific method that includes thorough critical review is likely to be given greater weight. The more specific the guideline, the easier it will be for the jury to see how it applies to a case, and to determine whether the practice in question conforms to it or not (Chassin, 1988). A guideline developed by a payer that reflected financial rather than medical considerations may be given less weight than a guideline that is explicitly designed to embody medical professional standards (American Medical Association, 1990).[6]

---

[2] For example, The Robert Wood Johnson Foundation is funding a number of studies that will yield information on the current system and modifications or alternatives to it.

[3] The Commission would like to thank the American Medical Association (AMA) for making available a draft report on the legal implications of practice guidelines (or practice parameters). The Commission contracted with six attorneys for critical review of the section on malpractice in this draft report. All six concluded that the legal analysis was correct. This section draws on those reviews and a subsequent revised draft of the AMA report (American Medical Association, 1990).

[4] We will concentrate on physicians, but the discussion applies to hospitals and other providers.

[5] Historically, the standard of practice was local custom, but medical practice is increasingly held to national standards (Jacobson, 1989). The development of practice guidelines and clinical standards by national medical organizations is likely to accelerate this process.

It is very unlikely that physicians will automatically be judged negligent if they do not follow a guideline, nor automatically judged to have met the standard of care if they do. Physicians who do not follow a guideline will be able to explain why they consider the guideline invalid or not applicable to the situation, or why deviation from it is appropriate under the particular clinical circumstances.[7]

In summary, guidelines will be considered along with other evidence in determining the standard of care against which a physician's actions are judged. Guidelines will give the court better information upon which to make a judgment, and should increase the accuracy of juries' decisions. Physicians who in fact provide substandard care that results in patient injury are more likely to be found negligent. Those whose actions meet professional standards are less likely to be judged negligent than they are now.

Since guidelines will be used to help determine the standard of care, they must be kept up to date. Physicians must be informed when new guidelines are written and old ones revised. Otherwise, physicians practicing in accordance with outdated guidelines may be exposed to risk for outmoded practices. Those developing and revising guidelines must be certain that the new information is immediately and easily available to physicians. It seems unlikely that a court would be convinced by an argument that the physician was not yet aware of a new or revised guideline.

Guidelines should lead to other improvements in the medical tort liability system (Williams, 1988). They should help injured patients determine whether they have reason to sue for malpractice.[8] Clear and specific guidelines will also make it easier for patients injured through negligence--and their physicians--to conclude that their care did not in fact meet standards for acceptable practice. This should reduce the frequency of suits when there is no evidence of substandard care and encourage settlement out of court when the outcome is predictable to both parties. Finally, guidelines should improve the actual quality of care, and reduce the incidence of actual substandard practice.[9]

---

[6] This does not mean that a guideline based on costs as well as medical risks and benefits would not be considered by a jury. Insofar as customary medical practice is based on considerations of costs as well as benefits, the courts may judge actual practice by the same criteria. However, courts are not bound to follow customary medical practice in establishing the standard of care.

[7] Most guidelines cannot be written to anticipate every possible clinical situation, so some exceptions will be appropriate and physicians will be required to interpret a guideline when applying it. A physician who chooses not to follow a guideline should note the reasons in the medical record. The medical record will be admissable as evidence in the court proceeding.

[8] OBRA89 directs AHCPR to develop guidelines for use by patients as well as for physicians.

Legislative Protection for Physicians Using Guidelines

Some have suggested that legislative action may be appropriate to provide further protection from malpractice liability to physicians who practice in accord with reputable guidelines. However, it is not clear that such protection is either needed or advisable. A more informed judgment will be possible after several years of experience with guidelines and their use in malpractice litigation.[10]

Physicians who treat Medicare patients in accordance with guidelines developed by Peer Review Organizations (PROs) are already given a form of immunity from civil liability under current statute (American Medical Association, 1990). However, this immunity applies only if the physician exercises due care in all actions related to the PRO guideline. It is not clear whether this provision affords physicians any effective protection from prosecution. According to the American Medical Association (1990), "there are no reported cases in which a malpractice defendant has raised the PRO provision--successfully or unsuccessfully--as a defense."

Additional legislative protection may be unnecessary. It is likely that guidelines will be readily considered by courts without such a directive. Furthermore, it may be difficult to define a reputable guideline in legislation, and it is likely that some of the guidelines developed and disseminated in the near future will not be worthy of this designation. At least for the near term, it may be preferable to allow competing testimony to determine the weight given a particular guideline.[11]

Should the Medical Tort Liability System Be Changed?

The medical malpractice system is intended not only to compensate persons who are injured through negligent medical practice, but also to identify physicians who need retraining and to remove from practice those who are persistently negligent. The threat of liability is expected to deter substandard practice by physicians and hospitals. But many believe that these goals are only partially met, and that there are better ways to improve the quality of medical care and prevent substandard practice. The criticism of the medical malpractice system can be summarized in three main points (U.S. GAO, 1987; DHHS, 1989; Danzon, 1985; Jacobson, 1989):

---

[9] Because most injuries due to substandard practice do not lead to a malpractice suit, the number of suits and the frequency with which physicians are judged negligent in court could increase even if actual substandard practice were reduced (Danzon, 1985; Jacobson, 1989).

[10] Medical tort liability law is the province of the states, and some argue that the federal government should not become involved in this area. Others have argued that state action has not solved the problems of the malpractice system, and that federal action is needed (Hatlie, 1990).

[11] The AMA in a draft report suggests that "legislative proposals should be considered to grant physicians immunity from malpractice liability when they act in accordance with a parameter developed by a properly constituted organization in accordance with established methods" (American Medical Association, 1990, p.24). While the goal is clear, it may be difficult to define "a properly constituted organization" and to determine whether it proceeded "in accordance with established methods."

- The costs of medical malpractice insurance are high and have increased persistently since the mid-1960s. The system has very high transaction or overhead costs, including administrative and legal expenses that absorb more than half of the money collected in liability premiums.

- The system does not reliably compensate persons who are injured due to negligence, nor does it accurately identify negligent physicians. Many incidents of negligent medical practice leading to injury do not result in malpractice suits, a finding of negligence, or awarding of damages to the injured party. Many injured persons who receive compensation do so only after years of protracted litigation. Furthermore, a substantial number of malpractice suits are brought for cases in which negligence has not occurred.

- Physicians' fear of malpractice has affected medical practice. Physicians practice defensive medicine to reduce their malpractice risks, providing services that are not strictly medically necessary and sometimes entail risks for the patient. Defensive medicine also results in additional costs.[12] The fear of malpractice is said to diminish the trust between physician and patient, and to reduce access to care for some services.

While high costs of the medical tort liability system have been well documented, there has been little reliable information to determine how accurately the system judges negligence and compensates patients injured because of it. A preliminary report of one study of 31,000 hospitalized patients in New York in 1984 estimates that of patients who suffered a significant injury due to negligence, only 10 percent resulted in suit. At the same time, less than half of the suits that were brought involved injury and negligence (Hiatt et al., 1989; Sack, 1990). This study confirms the conclusions reached by an earlier, less rigorously designed study in California (Mills, 1977; Danzon, 1985).

Only a small fraction of negligent practice results in malpractice suits, and many suits are initiated when there has been no negligence. Further, legal findings against negligent physicians have seldom resulted in disciplinary action (DHHS, 1989).[13] It seems unlikely that the malpractice system is a powerful force to improve or assure quality in medical practice.

---

[12] Estimates of the cost of defensive medicine range up to $15 billion per year. A Commission staff review suggests that though these costs may be substantial, one cannot have confidence in any of the particular estimates that have been made (unpublished staff paper).

[13] The creation of the National Practitioner Data Bank by the Health Care Quality Improvement Act of 1986 will provide a source of information on professional disciplinary actions, malpractice judgments, and loss or modification of clinical privileges (DHHS, 1989).

The Commission recognizes that understanding and evaluating the medical tort liability system will be a major undertaking. But medical tort liability does not accomplish the tasks for which it is designed, and it has undesirable effects throughout health care. There is a clear need for change.

ANTITRUST AND PRACTICE GUIDELINES

The medical profession has been called upon to develop practice guidelines and promote their use by physicians, beneficiaries, and reviewers. A number of medical professional organizations have expressed fear that they risk antitrust suit if they develop and disseminate guidelines.

The Commission has examined this question and has consulted experts in the Federal Trade Commission (FTC), the Antitrust Division of the U.S. Justice Department, and in private practice.[14] It has concluded that the risk of antitrust suit for a medical professional organization that develops and disseminates guidelines is slight as long as the organization follows straightforward, appropriate, and reasonable procedures in doing so.

Competition and Restraint of Trade

Federal antitrust laws prohibit collective activity that unreasonably restrains trade in the sense that it reduces economic competition among physicians. When a medical professional society issues a medical practice guideline, the statement potentially affects the practices of individual physicians. It may affect a physician's ability to provide certain services and to be paid for them, particularly if third parties use the guideline in their determinations of coverage, medical necessity, and payment.

However, the test of antitrust liability is not whether a guideline influences or even restrains the actions of other physicians--guidelines are intended to do that--but whether it reduces market competition. The courts recognize that guidelines, by providing more information to consumers, can increase competition. The court must determine whether the procompetitive benefits of a guideline outweigh any anticompetitive effects.[15]

---

[14] The Commission contracted for an analysis of the antitrust risks of professional societies that develop guidelines (Lerner, 1988). It also convened two panels of attorneys from the FTC, the Justice Department, and private practice. The conclusions presented in this section are consistent with the views of the participants. This section also draws on a draft of a report by the American Medical Association on the legal implications of practice guidelines (American Medical Association, 1990).

Courts have consistently held that guidelines soundly based on scientific evidence and promulgated in good faith by professional organizations do not constitute an unreasonable restraint of trade (American Medical Association, 1990). If such guidelines are freely offered without an attempt to coerce physicians or payers to use them, they would pose no antitrust risk to the professional organization issuing them. According to the American Medical Association (1990), "As long as a medical society does not enforce its recommendations through some form of coercive action--for example, by boycotting payers or withholding referrals from providers who do not abide by the recommendations--the society's expression of its views should not even constitute a 'restraint,' much less an unreasonable one."

The Justice Department and the FTC appear to have no intention of taking action against organizations properly developing guidelines. For example, Ms. Allyson Smith, an official of the Antitrust Division of the Justice Department, stated in remarks before the Commission in October 1989 that:

> The Department of Justice would not be likely to bring an enforcement action against a physician or group of physicians who, in good faith, participated in the development of effectiveness research or ... legitimate medical practice guidelines. This is particularly true when the standards would be developed on objective, expert judgment and through procedures that would safeguard the process to ensure that the guidelines were not biased by members who might have an economic motive to stifle competition.

A professional society, then, should develop guidelines through a process that is designed to take account of all points of view, and base the recommendations on accurate scientific information.[16] The American Medical Association (1990) makes the following suggestions to minimize antitrust liability risks:

- Keep the parameter development process focused strictly on scientific and medical considerations... Do not allow the process to be dominated by political or economic factions. Recommend what should be done, not who should do it.

---

[15] Many would argue that this is too narrow a basis upon which to judge activity to develop guidelines, since guidelines will improve the quality of care and may reduce costs, both very important social goals. For other considerations to apply, the law would have to be changed.

[16] These are essentially the same criteria one would set out to develop guidelines most likely to improve medical practice (Leape, 1989; PPRC, 1989).

- Develop and adhere to fair procedures. Due process helps ensure the scientific validity, and thus the informational value, of parameters. Procedures should be devised to allow input from all affected professional groups. Decisionmakers should rely upon objective scientific and clinical information and should state their reasons for endorsing particular approaches in preference to others.

- Issue voluntary guidelines. Medical societies should not police compliance with practice parameters. Neither should they lobby insurers or other third parties to adopt the guidelines as criteria for reimbursement or credentialing, unless they do so in a manner that is *clearly* designed to persuade rather than to threaten or coerce. Any enforcement of parameters should result solely from the independent decisions of third parties.

Legislative Protection for Development of Guidelines

Antitrust suits may be initiated by private parties as well as by the FTC and the Justice Department. While there is essentially no threat of antitrust suit from the FTC or the Justice Department to professional organizations following reasonable procedures in developing guidelines, the threat of suit by private individuals cannot be entirely discounted. Though such a suit has little or no chance of success, the burden of defending a suit is substantial. This has led some to call for federal protection from private antitrust action (American Medical Association, 1990).

The Health Care Quality Improvement Act of 1986 provides immunity to health care providers and professional societies from liability resulting from peer review activities carried out in good faith. This protection is substantial for individuals actually engaged in review through PROs, carriers, and hospital medical staffs. However, this protection apparently does not extend to the process of developing guidelines and clinical standards (American Medical Association, 1990).

For several reasons, the Commission does not call at this time for additional legislative protection for medical organizations developing guidelines. First, the antitrust risk is negligible as long as medical organizations develop guidelines using reasonable methods and issue them without attempting to coerce physicians or payers. Though the potential for an unfounded suit from private parties remains, courts are very unlikely to find for the plaintiff.[17] Second, it is not clear whether criteria could be written to protect legitimate guidelines while preserving the risk of suit for those who issue guidelines with the intent to stifle legitimate practice. Finally, there is a risk that an attempt to enact such legislation may instead result in loss of the protection that already exists through the Health Care Quality Improvement Act of 1986.

---

[17] A recent appellate court decision suggesting that the plaintiff had no grounds for suit may be a useful precedent (Havighurst, 1988, 1990).

REFERENCES

American Medical Association, *Legal Implications of Practice Parameters,* draft report, Chicago: American Medical Association, February 12, 1990.

Chassin, M.R., "Standards of Care in Medicine," *Inquiry* 25:437-453, 1988.

Danzon, P.M., *Medical Malpractice: Theory, Evidence, and Public Policy*, Cambridge, MA: Harvard University Press, 1985.

Hatlie, M.J., "Professional Liability: The Case for Federal Reform," *Journal of the American Medical Association* 263(4):584-585, 1990.

Havighurst, C.C., "Applying Antitrust Law to Collaboration in the Production of Information: The Case of Medical Technology Assessment," *Law and Contemporary Problems* 51(2):341-379, 1988.

Havighurst, C.C., "Practice Guidelines and the Law," unpublished paper prepared for the Physician Payment Review Commission, 1990.

Hiatt, H.H., B.A. Barnes, T.A. Brennan, et al., "Special Report: A Study of Medical Injury and Medical Malpractice: An Overview," *New England Journal of Medicine* 321(7):480-484, 1989.

Jacobson, P.D., "Medical Malpractice and the Tort System," *Journal of the American Medical Association* 262(23):3320-3327, 1989.

Leape, L.L., "Unnecessary Surgery," *Health Services Research* 24(3):351-407, 1989.

Lerner, A.N., "Medical Practice Guidelines and the Antitrust Laws," December 1988, to be published as a Background Paper of the Physician Payment Review Commission.

Mills, D.H., ed., *Report on the Medical Insurance Feasibility Study*, San Francisco: California Medical Association, 1977.

Physician Payment Review Commission (PPRC), *Annual Report to Congress 1989*, Washington, D.C., 1989.

Sack, K., "Hospital Study Finds Few Suits, Much Negligence," *New York Times*, January 29, 1990.

U.S. Department of Health and Human Services (DHHS), Office of the Inspector General, *Medical Malpractice: A Monograph of Current Information*, OAI-09-89-00300, Washington, D.C., May 1989.

U.S. General Accounting Office (GAO), *Medical Malpractice: A Framework for Action*, GAO/HRD-87-73, Washington, D.C., 1987.

Williams, A.P., *Malpractice, Outcomes, and Appropriateness of Care*, RAND P-7445, Santa Monica: The RAND Corporation, May 1988.

CHAPTER 16

PHYSICIAN PAYMENT IN THE MEDICAID PROGRAM

There is growing concern among physicians, policymakers, and others about the adequacy of physician payment rates under the Medicaid program. They have suggested that low fee levels have discouraged physicians from treating Medicaid patients, thereby limiting beneficiary access to mainstream medical care. The Omnibus Budget Reconciliation Act of 1989 (OBRA89) directs the Commission to examine the adequacy of physician payment, physician participation, and access to care by Medicaid beneficiaries. The study and accompanying recommendations are due by July 1, 1991.

To begin its work, the Commission conducted background research on state Medicaid program characteristics, focusing on physician payment methods. It also reviewed previous research studies that have analyzed how Medicaid fee levels affect beneficiary access to care and program expenditures. Finally, the Commission developed a research plan for the coming year.

This chapter is divided into four sections. The first provides background information on basic Medicaid program characteristics, including financing, beneficiary eligibility, and service coverage. The second section describes state Medicaid physician payment systems. The third reviews previous research concerning the effect of Medicaid physician fee levels on access to services and program expenditures. The final section describes the Commission's work plan for the coming year.

MEDICAID PROGRAM CHARACTERISTICS

Medicaid is a joint federal-state entitlement program providing payment for medical services to approximately 25 million low-income persons who are aged, blind, disabled, or members of families with dependent children. Although broad federal guidelines determine eligibility and coverage standards, each state[1] designs and administers its own Medicaid program. As a result, state programs vary considerably in beneficiary eligibility requirements, service coverage, utilization limits, and provider payment policies.

Financing

Medicaid is jointly funded by the states and the federal government, with the federal share of expenditures determined by a formula based on state per capita income. States with relatively low per capita incomes receive higher federal match rates. For example, Mississippi, with a per capita income of $9,035, had a match of 79.8 percent in fiscal year 1989, while Connecticut, with per capita income of $17,627, received a 50 percent match.[2] Since 1987 this matching rate has been recalculated annually.

Program administration costs are matched at 50 percent, and higher matching rates are provided for data systems operations and quality monitoring efforts. States failing to meet administrative performance standards may have either their medical services or administration match reduced by specified percentages. Overall, federal funds account for approximately 56 percent of total Medicaid expenditures.

Federal payments to the states are appropriated annually from general revenues to meet claims submitted by the states. There is no limit on federal payment.[3] States may finance their share entirely from state funds or require local governments to finance up to 60 percent of program costs.[4]

---

[1] Forty-nine states participate in the Medicaid program as do the District of Columbia, American Samoa, Guam, Puerto Rico, the Virgin Islands, and the Northern Mariana Islands. Arizona's medical assistance program operates as a demonstration program under certain waivers of Medicaid requirements.

[2] The federal match for Medicaid services is legislatively set at a minimum of 50 and maximum of 83 percent. Seventeen states currently receive the minimum federal match. Thirteen states have federal matches above 70 percent.

[3] OBRA81 attempted to limit increases in federal Medicaid spending by changing the Medicaid matching formula between 1982 and 1984.

[4] Only 14 states finance Medicaid from local sources. Local dollars account for a small proportion of state financing in all but three of these states.

Eligibility

As a means-tested entitlement program, eligibility for Medicaid was patterned after the Kerr-Mills medical assistance program[5] and has been closely linked to actual or potential receipt of cash assistance under various federal welfare programs. Persons qualifying for coverage are classified as either categorically needy or medically needy. All persons receiving Aid to Families with Dependent Children (AFDC) and most persons on Supplemental Security Income (SSI)[6] are considered categorically needy and are covered in all states. Certain groups that do not receive cash assistance are also defined as categorically needy.[7]

States also have the option of treating other groups as categorically needy. These include "Ribicoff" children (those younger than a maximum state age limit and poor enough to meet AFDC income standards but who do not qualify for cash assistance for other reasons), institutionalized persons meeting state financial standards, and disabled children who would be eligible if institutionalized.

Thirty-six states also provide benefits to the medically needy, individuals whose income or resources exceed standards for cash assistance but who meet a separate state set income standard[8] and are also aged, disabled, or a member of a family with dependent children. Persons who "spend down" income and assets due to large health care expenses may qualify as medically needy.

As a result of various structural barriers and Medicaid's linkage to cash assistance programs, the program currently covers less than half the population with incomes below the federal poverty level (U.S. Congress, 1988a). Since 1986, however, Congress has weakened this link between Medicaid and cash benefits. Expanded eligibility has been targeted to specific populations--pregnant women and children, the disabled or the elderly--rather than to Medicaid beneficiaries as a whole. Recent measures include:

---

[5] Enacted in 1960, the Kerr-Mills program provided medical assistance to the low-income elderly. Medicaid borrowed three distinct features from this program: joint federal-state financing, state administration according to broad federal standards, and eligibility tied to state standards for other cash benefits.

[6] Fourteen states exercise the more restrictive 209(b) option by limiting Medicaid eligibility for SSI beneficiaries because more restrictive standards were in effect in the state prior to implementation of SSI.

[7] These include but are not limited to: (1) persons who would otherwise qualify for AFDC except for family structure or because they qualify for less than the minimum benefit, including pregnant women and children born on or after October 1, 1983 up to age seven; (2) families that lose AFDC benefits due to increased employment income, working hours, or child or spousal support payments; (3) persons who become ineligible for SSI due to increases in their Social Security benefits; (4) disabled persons who lose SSI due to employment income but who remain disabled and need Medicaid benefits to remain employed; and (5) children receiving federal adoption assistance or foster care maintenance payments.

[8] This standard may not exceed 133.3 percent of the maximum AFDC payment for a similar size household.

- the Omnibus Budget Reconciliation Act of 1986 (P.L. 99-509, OBRA86), which permitted states to cover pregnant women, young children, or the aged and disabled with incomes up to 100 percent of the federal poverty level;[9]

- the Omnibus Budget Reconciliation Act of 1987 (P.L. 100-203, OBRA87), which created a state option to cover pregnant women and infants with incomes up to 185 percent of the federal poverty level;

- the Medicare Catastrophic Coverage Act of 1988 (P.L. 100-360), which converted OBRA86 options to mandates for pregnant women, infants, and Medicare eligibles with family incomes below 100 percent of poverty,[10] and allowed states to cover poor children up to their eighth birthday; and

- the Omnibus Budget Reconciliation Act of 1989 (P.L. 101-239, OBRA89), which required states to cover all pregnant women and infants in families with incomes up to 133 percent of the federal poverty level effective April 1, 1990, and phased in mandatory coverage of all children born after September 30, 1990, up to their sixth birthday in families below 133 percent of poverty.

States may also extend coverage to other groups at their own expense.

Service Coverage

All states must provide a standard benefit package to the categorically needy that includes: inpatient and outpatient hospital services; physician services; laboratory and X-ray services; family planning; skilled nursing facility (SNF) services for adults; home health care for persons entitled to SNF services; rural health clinic services; nurse-midwife services; and early and periodic screening, diagnosis, and treatment (EPSDT) for children.

---

[9] States opting to cover the aged under this eligibility expansion must also cover pregnant women and infants. However, states that expand eligibility for pregnant women and infants are not required to offer similar coverage to the aged.

[10] This mandate, which was unaffected by the subsequent repeal of the Medicare Catastrophic Coverage Act, is effective July 1, 1990 for pregnant women and infants, and will be phased in by July 1, 1993 for other Medicare eligibles.

The required benefit package for the medically needy is less comprehensive than that for the categorically needy. States opting to cover the medically needy must, at a minimum, provide ambulatory care for children and prenatal care and delivery services for pregnant women. Almost all states that have medically needy programs, however, provide the same services to both medically and categorically needy recipients.

States may also provide (and receive federal matching payments for) 32 other service categories. Among these are prescription drugs; dental care; eyeglasses; services provided by optometrists, podiatrists, and chiropractors; intermediate care facility (ICF) services; and services to the mentally retarded in ICFs. There is considerable variation among states in optional services offered. Virtually all cover prescription drugs, ICF services, and optometrists' services.

Regardless of the services a state chooses to offer, it must do so uniformly throughout the state, providing comparable coverage to all categorically needy beneficiaries and allowing beneficiaries to obtain services from any qualified provider. These three requirements--uniformity, comparability, and freedom of choice--may be waived under certain conditions if approved by the Health Care Financing Administration (HCFA), including health maintenance organizations (HMOs) and primary care case management programs.

Service Limitations

States have broad discretion in defining coverage of both mandatory and optional services.[11] They may impose durational limits on coverage, such as ceilings on inpatient days or physician visits. They may also establish utilization controls such as medical necessity reviews, prior authorization for certain services, or second surgical opinion programs. Most deny coverage for experimental services.[12]

With respect to physicians' services, states have placed limits on specific services (such as organ transplants, cosmetic surgery, and routine physicals); the frequency of visits; and the frequency of visits by practice setting. Eleven states limit inpatient physician visits, and 12 states limit visits in long-term care facilities.[13] Five states (Arkansas, Kansas, Nevada,

---

[11] This contrasts with the discretion granted to Medicare carriers. Under Medicare, carriers may impose screens to detect excessive numbers of services, but they cannot categorically deny services based on limits not set out in legislation.

[12] Medicare also imposes statutory and regulatory coverage limits for certain services (such as nursing home stays and psychiatric treatment), but most physician services are not restricted. Medicare, like Medicaid, does not cover experimental treatments, and the statutory provisions for utilization review and the assessment of new technologies are essentially the same for the two programs.

[13] Generally, inpatient limits permit one or two physician visits per day. Limits on long-term care visits range from two to 36 visits per year.

Oklahoma, and Tennessee) limit office visits; three (Arkansas, Ohio, and Oklahoma) limit home visits; six limit visits for all settings other than inpatient hospital; and one (Missouri) limits emergency room visits made for nonemergency reasons. States may also apply limits to the number of times specific services may be provided. These services typically include psychiatric visits, consultations with specialists, family planning, comprehensive physical exams, and eye exams.

In addition, 22 states require prior authorization for specific procedures such as hemodialysis, sterilization, and organ transplants. Eleven require prior authorization for all elective procedures. States may also require authorization for certain service sites or for care outside the state. Only five states (Colorado, Maine, New York, North Dakota, and West Virginia) do not place any limits on physicians' services (HCFA, 1987).

Patterns in Program Spending

In 1966 spending for Medicaid and its predecessor, the Kerr-Mills medical assistance program, accounted for 3.3 percent of U.S. health expenditures. By contrast, in 1986 Medicaid represented 10 percent of national health spending, 20 percent of federal health dollars, and 36 percent of state and local health expenditures. During this same period, the number of Medicaid beneficiaries nearly doubled from 11.5 million to 22.5 million (U.S. Congress, 1988a).[14]

In its early years, increases in Medicaid spending outpaced overall growth in health expenditures, rising at a 12.6 percent average annual rate (after adjustment for inflation) between 1968 and 1974. Most of this growth can be attributed to the initiation of state Medicaid programs and to increases in the number of persons eligible for AFDC (U.S. Congress, 1988a). After 1974 the rate of growth in Medicaid enrollment became more gradual. Although expenditure growth in the health sector ranged from 9 percent to 12 percent annually between 1974 and 1980, adjusted Medicaid payments grew only by 4.7 percent annually.

Over the past ten years, federal Medicaid spending has not increased as rapidly as other federal health care expenditures. State spending for Medicaid, however, is growing faster than other major categories of state expenditures like education and transportation (National Association of State Budget Officers, 1989). In 1979 Medicaid represented 21.4 percent of federal health dollars; since then, its share has dropped to about 19 percent.

---

[14] Growth in the Medicaid population was affected by factors in addition to general population growth and the poverty rate. During this ten-year period, the U.S. population grew less than 25 percent and the poverty rate declined slightly.

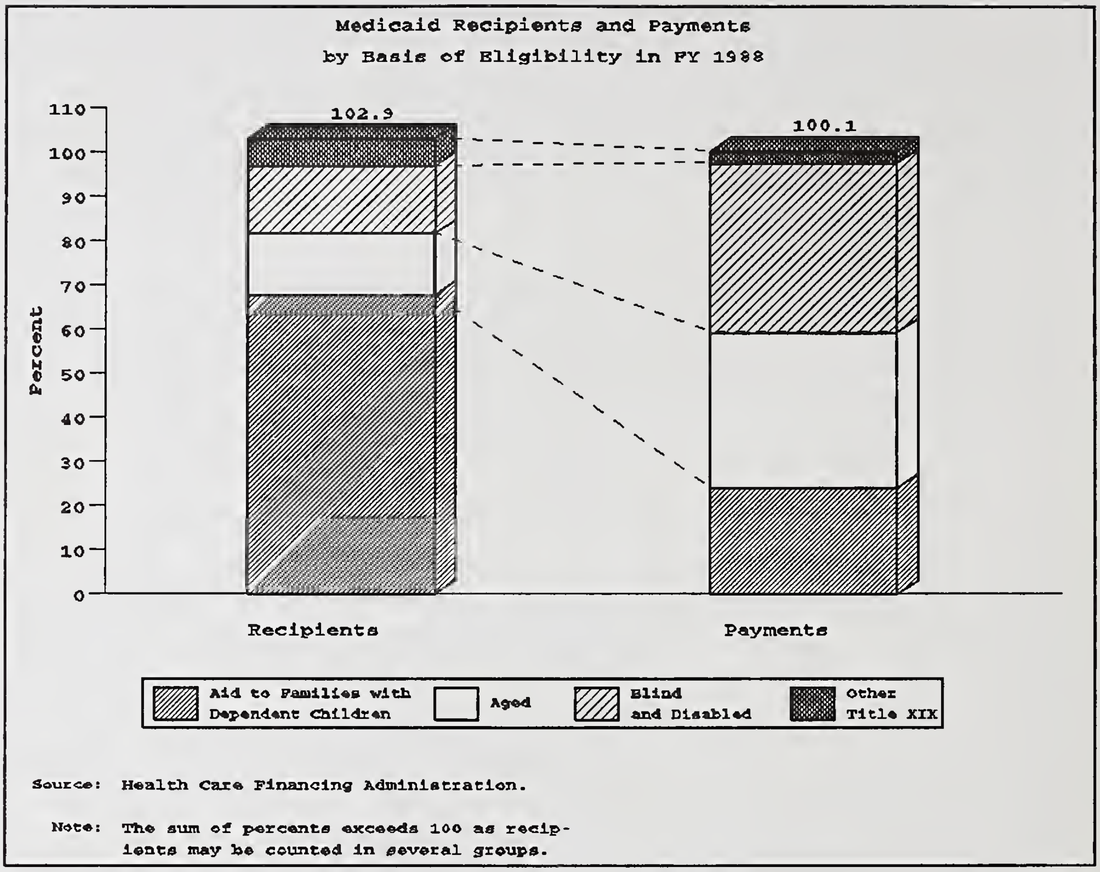
Between 1982 and 1986, inflation-adjusted Medicaid payments increased by only 1.2 percent. Real program payments actually declined between 1981 and 1982, and between 1983 and 1984. For fiscal year 1989, federal Medicaid expenditures are estimated at $34 billion; this figure is projected to grow to $37 billion in fiscal year 1990. As a result of recent program expansions, Medicaid expenditures are expected to increase more rapidly over the next few years.

Nursing home care and inpatient hospital services are the two largest Medicaid service categories by share of payments, accounting for 30.3 percent and 28.0 percent of Medicaid payments respectively in 1986. Physicians' services ranked fifth (6.2 percent), after intermediate care facilities for the mentally retarded (ICF/MR) services (12.4 percent) and prescription drugs (6.6 percent), and just ahead of hospital outpatient services (4.8 percent) (U.S. Congress, 1988a). The proportion of Medicaid funds spent for physicians' services dropped from 10 percent in 1975. It has been suggested that this decline may be attributable to coverage limitations, to increased emphasis on other services (such as long-term care and home health services), and to a reduction in the number of participating physicians leading to substitution of outpatient services for physician care (U.S. Congress, 1988a).

Based on the number of users of services, however, physicians' services are the largest Medicaid service category, followed by prescription drugs and hospital outpatient services. Nearly 15 million Medicaid beneficiaries used physicians' services in 1986 compared with 3.5 million using inpatient hospital services and 1.4 million using nursing home care (U.S. Congress, 1988a).

Patterns of service use and overall expenditures differ dramatically among the three major populations served by Medicaid: children and adults in families with dependent children, the elderly, and the disabled. Poor children and their families accounted for 68 percent of Medicaid beneficiaries in fiscal year 1988 but only 24 percent of program payments. By contrast, the elderly accounted for 35 percent of total spending but only 14 percent of beneficiaries. Blind and disabled persons comprised close to 15 percent of beneficiaries but 38 percent of payments (HCFA, 1989). These differences, presented in Figure 16-1, are largely attributable to the elderly and disabled populations' spending on long-term care (U.S. Congress, 1988a).

Program spending also differs dramatically by state. In fiscal year 1986, spending in eight states (New York, California, Ohio, Pennsylvania, Michigan, Illinois, Massachusetts, and Texas) accounted for more than 57 percent of total Medicaid dollars but only 53 percent of Medicaid beneficiaries (U.S. Congress, 1988a). While the share of state spending is a function of state population and the actual number of Medicaid beneficiaries, differences in service coverage, in payment policies, and in eligibility criteria are also contributing



Medicaid Recipients and Payments by Basis of Eligibility in FY 1988

Source: Health Care Financing Administration.

Note: The sum of percents exceeds 100 as recipients may be counted in several groups.

Figure 16-1.

factors. The average annual payment per Medicaid beneficiary in 1985 ranged from $819 in West Virginia to $3,384 in New York (HCFA, 1987).

Finally, states tend to have different patterns in the way in which they spend their Medicaid dollars. In general, states that are more generous in their funding for one aspect of Medicaid tend to be less generous in others. A recent study examined the generosity of each state Medicaid program using data from 1982, classifying each Medicaid program as being either "high" or "low" with regard to the generosity of Medicaid eligibility, service coverage, and physician fees (Cromwell et al., 1987). It found that only nine Medicaid programs were rated as being either high or low on all three criteria; rather, most states tended to be generous in one or two areas but were not generous in the third. For example, 36 Medicaid programs showed a trade-off between eligibility and physician payment (that is, they were rated as generous in terms of eligibility but not generous in terms of physician payment). Although the data used in these analyses do not reflect significant changes in many Medicaid programs during the late 1980s, the findings imply that states may have substantial discretion to trade off expenditures between eligibility, service coverage, and provider payment. Actions affecting one aspect of programs, such as physician payment, therefore, might have repercussions on other aspects as well.

PHYSICIAN SERVICES UNDER MEDICAID

States have broad discretion in developing payment methodologies and fee levels.[15] Federal rules require, however, that physicians accept Medicaid payment as payment in full. Although balance billing is prohibited, beneficiary cost sharing is permitted in the form of nominal copayments (for example, $1 per physician visit) for certain groups of recipients.[16] Certain services, pregnancy and emergency services, for example, are statutorily exempt from copayment requirements. In addition, providers may not deny services if a recipient can not pay the cost-sharing amount (HCFA, 1989).

Payment Methodologies

Federal guidelines have not imposed specific physician payment methodologies, requiring only that payment may not exceed that paid by Medicare, while remaining sufficiently high to ensure reasonable access (HCFA, 1989). Until recently, however, there has been little effort on the part of the federal government to monitor the effect of state payment policies on access. Under OBRA89, states must submit annual plans beginning April 1, 1990 that specify Medicaid payment rates for obstetrical and pediatric services. The Secretary will review these rates to determine whether they are sufficient to ensure that covered services are available to Medicaid enrollees to the same extent that they are available to the general population.[17] Beginning in 1992 states will also be required to report average Medicaid payments for specific obstetric and pediatric procedures.

Two basic methods are in use for fee-for-service physician payment: customary, prevailing, and reasonable (CPR) charges or fee schedules. Nineteen states use a CPR methodology comparable to that used by Medicare. While Medicare prevailing charges are set at the 75th percentile of the customary charges in a given locality, Medicaid programs may use a lower percentile.

---

[15] Special federal rules affect payment to rural health clinics, hospices, and laboratories.

[16] Ten states currently require copayments for physician services (Luehrs, 1990).

[17] The Commission plans to review the initial submissions as part of its study of Medicaid physician payment issues.

Thirty-one Medicaid programs explicitly use fee schedules specifying a uniform maximum payment for each type of service. These fee schedules may be fixed tables drawn from a particular year's CPR charge data, based on relative value scales, or created by other methods (such as using data from private payers). Typically, they were initially based on Medicare or in-state private insurance charges. Subsequent fee increases and fee schedule revisions were tightly constrained by state budgetary pressures (Holahan, 1984). Four states (California, Colorado, Idaho, and South Carolina) use relative value scales such as the California Relative Value Study and the Nevada scales for dental and ocular services. The different state payment methodologies are summarized in Table 16-1.

The Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA) gave the Secretary of Health and Human Services waiver authority to approve four managed care options: promotion of voluntary enrollment in HMOs, voluntary or mandatory enrollment in partial capitation or fee-for-service primary care case management systems, voluntary or mandatory enrollment in health insuring organizations (HIOs),[18] and mandatory enrollment in multiple HMO systems under which beneficiaries may voluntary disenroll from one organization in order to enroll in another (U.S. Congress, 1988a). Capitation methods, however, affect only a small percentage of Medicaid beneficiaries. Approximately 2.3 million beneficiaries (about 10 percent of all Medicaid beneficiaries) residing in 29 states were enrolled in Medicaid prepaid plans in 1987, with only Arizona's program covering all recipients statewide (Lopez, 1989).

Many states have included physician services among their efforts to control Medicaid program costs. In addition to imposing utilization controls, several states have acted to control costs by applying direct limits on payments. Most states used CPR initially for administrative convenience and to achieve high provider participation. But concern about program costs prompted some states to apply lower ceilings within the CPR framework, to delay charge profile updates, or to switch to fee schedules (Holahan and Cohen, 1986). In some states, budgetary constraints have so limited fee updates that CPR payment systems have become de facto fee schedules.

In recent years, however, some states have selectively increased fees for some physician services in order to improve provider participation. For example, to encourage physicians to provide care outside the hospital, Kansas increased payment for visits in offices, nursing homes, and emergency rooms; obstetrical services; as well as in-office medical supplies, diagnostic, and surgical procedures.[19] Kansas also increased payment for normal obstetrical deliveries if the hospital stay is 48 hours or less. Missouri launched a similar effort by increasing fees for office visits and improving coverage of previously restricted surgical procedures in outpatient settings. Ohio initiated an outpatient and office surgery incentive program, by increasing outpatient fees by 20 percent and increasing payment between $25 and $50 for office visits associated with selected surgical procedures (Holahan and Cohen, 1986). Utah exempted primary care services from a 10 percent payment reduction.

---

[18] Health insuring organizations are entities paid on a full capitation basis to provide primary care case management services through subcontractors (physicians and providers electing to sign contracts with the organizing entity). Approval of HIOs has since been extremely restricted.

Table 16-1. Medicaid Physician Payment Methodologies by State, 1986

Alabama	Prevailing Charges
Alaska	Prevailing Charges
Arkansas	Fee Schedule
California	Relative Value Scale
Colorado	Relative Value Scale
Connecticut	Fee Schedule
Delaware	Fee Schedule
District of Columbia	Fee Schedule
Florida	Fee Schedule
Georgia	Fee Schedule
Hawaii	Prevailing Charges
Idaho	Relative Value Scale
Illinois	Fee Schedule
Indiana	Prevailing Charges
Iowa	Prevailing Charges
Kansas	Prevailing Charges
Kentucky	Prevailing Charges
Louisiana	Prevailing Charges
Maine	Fee Schedule
Maryland	Fee Schedule
Massachusetts	Fee Schedule
Michigan	Fee Schedule
Minnesota	Prevailing Charges
Mississippi	Fee Schedule
Missouri	Fee Schedule
Montana	Fee Schedule
Nebraska	Prevailing Charges
Nevada	Fee Schedule
New Hampshire	Fee Schedule
New Jersey	Fee Schedule
New Mexico	Prevailing Charges
New York	Fee Schedule
North Carolina	Prevailing Charges

---

[19] At the same time, Kansas established rules to limit or deny coverage for some of these services in inpatient settings.

Table 16-1. - Continued

North Dakota	Prevailing Charges
Ohio	Fee Schedule
Oklahoma	Prevailing Charges
Oregon	Fee Schedule
Pennsylvania	Fee Schedule
Rhode Island	Fee Schedule
South Carolina	Relative Value Scale
South Dakota	Prevailing Charges
Tennessee	Prevailing Charges
Texas	Prevailing Charges
Utah	Fee Schedule
Vermont	Fee Schedule
Virginia	Fee Schedule
Washington	Fee Schedule
West Virginia	Fee Schedule
Wisconsin	Prevailing Charges
Wyoming	Prevailing Charges

Source: U.S. Congress, 1988a.

Note: Arizona's medical assistance program operates under certain waivers of federal requirements and does not offer a fee-for-service option.

Physician Participation in Medicaid

Physician participation in Medicaid varies by specialty (Table 16-2) and by state (Table 16-3).[20] The participation numbers themselves should be viewed with caution because previous research has shown that physician surveys tend to overestimate substantially involvement in Medicaid (Kletke et al., 1985). Nevertheless, they provide an indication of the specialties and states in which participation is relatively low.

Participation is quite low among obstetrician/gynecologists and psychiatrists (Table 16-2). Studies show that participation rates for obstetrician/gynecologists are among the lowest of all specialties, in terms of both the percentage of physicians willing to see any Medicaid patients and the proportion of their practices devoted to Medicaid. Pediatric participation, on the other hand, tends to be among the highest of all specialties, although there is tremendous variation by state (Table 16-3).

---

[20] Recent data collected by the American Medical Association (1989) indicates that overall participation rates declined by about three percentage points between 1984 and 1988.

Table 16-2. Survey-Based Data on Recent Trends in Medicaid Participation, by Physician Specialty

	Percentage of physicians who participate					Percentage of participating physicians' practice share devoted to Medicaid patients			
Specialty	**1976**	**1978**	**1983**	**1983**	**1984**	**1976**	**1978**	**1983**	**1984**
All physicians		76.5			82.8	11.9	9.1		
Pediatrics	73.6	76.9		82	81.5	10.8	14.1	14.7	16.7
Obstetrics/Gynecology	60.0	64.4	46		72.2	9.7	8.4		10.0
General Practice	71.4	75.1	67		80.4	11.6	13.1		10.6
Family Practice			67		86.8				10.6
Internal Medicine	66.5	79.8			80.4	7.9	13.2		7.6
Cardiology		68.1			85.5		6.9		6.3
Other medical specialties					84.3				7.1
General Surgery	73.9	90.3			87.1	11.5	13.4		11.6
Orthopedic Surgery		81.4			88.3		9.8		6.8
Ophthalmology		82.0			87.0		13.2		6.4
Urology		88.9			92.9		3.2		9.1
Other surgical specialties					82.5				6.9
Psychiatry		57.8			60.0		8.0		5.9
Anesthesiology					97.2				9.3
Pathology					91.9				7.9
Radiology					94.2				8.9
Other specialties					84.7				10.0

Source: U.S. Congress, 1988b.

A related issue concerns whether the Medicaid case load is evenly distributed among physicians, or whether a small proportion of physicians provides the bulk of the services. The latter appears to be the case, although this assessment is based on a limited amount of research and data from almost 15 years ago. Using 1976 data, it was found that 5.5 percent of physicians treated 32 percent of Medicaid patients, and that 15.5 percent of physicians provided services to almost 60 percent of Medicaid patients (Mitchell et al., 1981). The distributions for obstetrician/gynecologists were even more skewed.

Table 16-3. Percentage of Pediatricians Considered Full Participants in Medicaid, by State, 1978

State	Percentage of pediatricians considered full participants
Massachusetts	100
Nebraska	94
Colorado	87
Georgia	85
Oklahoma	85
Indiana	80
California	78
Iowa	76
Maryland	68
Texas	61
New York	60
Tennessee	59
Pennsylvania	32

Source: S. Davidson et al., 1983.

Note: Full participants were physicians who said they were accepting new non-Medicaid patients and were also accepting all Medicaid patients.

Variation in Payment Rates by State

In addition to variation among states in eligibility requirements and service coverage, there is also considerable variation in payment levels for physician services. In 1986 maximum payments for appendectomies ranged from $160 in New York to $674 in Nevada (Table 16-4). Maximum payments for brief follow-up office visits (CPT 90040) ranged from $6.00 in New Hampshire to $28.41 in Alaska (Table 16-5). There is more than a fourfold difference between the highest and lowest Medicaid payments for both procedures.

The relationship between Medicaid maximum payments and Medicare maximum allowed charges also varies, reflecting differences among states in both Medicaid as well as Medicare fee levels. Five states pay approximately the Medicare allowed amounts for appendectomies; three states pay about one-third of the Medicare amounts for appendectomies (Table 16-4). While maximum Medicaid payments for brief follow-up visits are 25 percent greater than the Medicare allowed amounts in Tennessee,[21] they are about one-third of the Medicare amounts in California, Connecticut, Michigan, and New York (Table 16-5).

The relationship between Medicaid and Medicare payment levels for specific services may change with the implementation of the Medicare Fee Schedule. However, because currently available data on Medicaid physician services are very limited, it is not yet possible to make such a comparison.[22]

Table 16-4. Medicaid Maximum Payments and Medicare Maximum Allowable Charges, Specialists, 1986

	APPENDECTOMY (CPT CODE 44950)		
	Medicaid	Medicare	Medicaid as percent of Medicare
Alabama	$405.00	$412.80	98.1
Alaska	N/A	N/A	N/A
Arkansas	275.00	412.60	66.7
California	353.68	825.20	42.9
Colorado	280.00	433.20	64.6
Connecticut	276.00	700.00	39.4
Delaware	390.35	492.70	79.2
District of Columbia	315.00	515.60	61.1
Florida	197.50	674.60	29.3
Georgia	399.50	600.00	66.6
Hawaii	453.66	660.10	68.7
Idaho	336.40	476.10	70.7
Illinois	270.00	605.00	44.6
Indiana	533.00	515.75	103.3
Iowa	N/A	500.00	N/A
Kansas	268.00	536.20	50.0
Kentucky	401.60	515.75	77.9
Louisiana	411.16	722.00	56.9
Maine	217.50	536.40	40.5
Maryland	202.00	515.70	39.2
Massachusetts	233.00	515.75	45.2
Michigan	271.50	399.00	68.0
Minnesota	520.00	519.90	100.0
Mississippi	295.05	510.00	57.9
Missouri	220.00	567.40	38.8
Montana	342.88	489.90	70.0

---

[21] In spite of the fact that Medicaid physician fees should not exceed those paid by Medicare, sometimes they do. In 1986 Medicaid fees for a brief follow-up office visit in five states were actually higher than those paid by Medicare (Table 16-5).

[22] Tables 16-4 and 16-5, and comparable data on obstetric care (CPT 59400) are the only data on payments for particular Medicaid services/procedures presently available.

Table 16-4. - Continued

	APPENDECTOMY (CPT CODE 44950)		
	Medicaid	Medicare	Medicaid as percent of Medicare
Nebraska	453.90	453.90	100.0
Nevada	673.72	742.70	90.7
New Hampshire	225.00	490.00	45.9
New Jersey	211.00	660.20	32.0
New Mexico	396.15	579.60	68.3
New York	160.00	1,140.20	14.0
North Carolina	378.00	536.40	70.5
North Dakota	449.05	494.80	90.8
Ohio	337.50	515.75	65.4
Oklahoma	500.00	610.00	82.0
Oregon	387.98	577.60	67.2
Pennsylvania	301.50	515.70	58.5
Rhode Island	205.00	515.75	39.7
South Carolina	307.40	440.92	69.7
South Dakota	345.00	455.80	75.7
Tennessee	449.50	536.50	83.8
Texas	N/A	N/A	N/A
Utah	430.12	N/A	N/A
Vermont	225.00	490.00	45.9
Virginia	236.25	515.60	45.8
Washington	290.23	576.80	50.3
West Virginia	230.00	515.75	44.6
Wisconsin	432.85	663.80	65.2
Wyoming	483.50	464.30	104.2
Average	**$337.97**	**$557.47**	60.6

Table 16-5. Medicaid Maximum Payments and Medicare Maximum Allowable Charges, Specialists, 1986

	BRIEF FOLLOWUP OFFICE VISIT (CPT CODE 90040)		
	Medicaid	Medicare	Medicaid as percent of Medicare
Alabama	$11.70	$20.70	56.5
Alaska	28.41	24.70	115.0
Arkansas	12.00	14.40	83.3
California	11.04	30.00	36.8
Colorado	11.75	15.50	75.8
Connecticut	8.80	24.80	35.5
Delaware	12.66	21.00	60.3
District of Columbia	20.00	25.00	90.9
Florida	10.00	24.80	40.3
Georgia	15.60	15.00	104.0
Hawaii	13.25	16.50	80.3
Idaho	10.50	14.60	71.9
Illinois	11.50	25.00	46.0
Indiana	17.30	16.50	104.8

Table 16-5. - Continued

	BRIEF FOLLOWUP OFFICE VISIT (CPT CODE 90040)		
	Medicaid	Medicare	Medicaid as percent of Medicare
Iowa	N/A	30.00	N/A
Kansas	15.00	16.70	89.8
Kentucky	13.00	16.50	78.8
Louisiana	10.69	16.30	65.6
Maine	8.00	N/A	N/A
Maryland	10.50	22.00	47.7
Massachusetts	8.00	N/A	N/A
Michigan	7.75	23.50	33.0
Minnesota	15.75	N/A	N/A
Mississippi	11.55	N/A	N/A
Missouri	10.00	20.70	48.3
Montana	11.30	14.70	76.9
Nebraska	16.30	16.30	100.0
Nevada	15.82	24.70	64.0
New Hampshire	6.00	12.40	48.4
New Jersey	9.00	20.60	43.7
New Mexico	11.50	17.20	66.9
New York	37.00	520.60	34.0
North Carolina	13.10	16.50	79.4
North Dakota	8.20	12.40	66.1
Ohio	12.00	20.60	58.3
Oklahoma	11.00	20.70	53.1
Oregon	11.07	18.50	59.8
Pennsylvania	13.00	25.00	52.0
Rhode Island	14.00	20.63	67.9
South Carolina	9.50	14.62	65.0
South Dakota	12.00	12.40	96.8
Tennessee	18.00	14.40	125.0
Texas	N/A	24.75	N/A
Utah	9.92	12.40	8.0
Vermont	8.00	12.40	64.5
Virginia	6.30	N/A	N/A
Washington	13.92	17.70	78.6
West Virginia	10.00	16.50	60.6
Wisconsin	16.23	18.10	89.7
Wyoming	16.30	14.40	113.2
Simple Average	**$12.43**	**$18.56**	**67.0**

N/A: Not available.

Sources: Congressional Research Service analysis of Medicaid data from U.S. Department of Health and Human Services; Health Care Financing Administration, *Analysis of State Medicaid Program Characteristics, 1986,* Table 56, 1987; and Medicare data from U.S. Department of Health and Human Services, Health Care Financing Administration, *Medicare Directory of Prevailing Charges,* 1984.

Notes:

a) Medicaid fees reflect statewide average maximum as reported to HCFA. It is not known which, if any, states have different maximums in different parts of the state. Medicare fees reflect highest allowable charge anywhere in state.

b) Connecticut fee reflects maximum payment for general practitioner; value for specialists is unavailable. District of Columbia fee includes Maryland suburbs. Information on Nevada fee available only for part of state.

THE EFFECTS OF MEDICAID FEES ON ACCESS AND EXPENDITURES: A REVIEW OF PREVIOUS RESEARCH

To assess whether changes should be made in Medicaid physician fee levels, it is necessary to understand the magnitude of current access problems, as well as the costs that are likely to be incurred to improve access. This section reviews previous research on how physician fee levels affect access to care and Medicaid expenditures. It concludes that, with a few notable exceptions, much is still unknown about these key elements of the Medicaid program.

Researchers and policymakers are very concerned about the impact of physician fee levels under Medicaid. It has long been recognized that low physician payment rates may inhibit beneficiary access to care. As discussed below, there is some evidence--albeit dated--indicating that low fees dissuade many physicians with office-based practices from treating Medicaid patients. Lower physician fees, however, may also reduce overall program expenditures. Consequently, many states have been reluctant to raise fees substantially.

Several factors account for the current lack of information on how fees affect access and expenditures. First, as noted above, states have been granted considerable flexibility in setting physician payment rates, eligibility standards, and service coverage requirements. It is therefore often difficult to easily summarize each state program's characteristics. Consequently, except for basic program information on aggregate expenditures and enrollment that states provide to HCFA, there have been few attempts to collect comparable Medicaid fee data across all states. Furthermore, available information detailing beneficiary access problems is generally limited to case studies in states or localities within states. Finally, the federal government has funded relatively little research on the Medicaid program compared with Medicare.

The section begins by examining how Medicaid fees affect physician participation in Medicaid and beneficiary access to medical services in general. Next, it presents previous research on the relationship between physician fees and Medicaid expenditures. The section concludes with a summary of what is known and what remains to be learned about the effects of Medicaid physician fee levels.

Access to Physician Care

Although there has been a great deal of recent research on access problems in the United States, particularly among the uninsured, less attention has been devoted to the level of access among individuals already eligible for Medicaid. Within Medicaid, the area that has received the most attention is the extent to which Medicaid (and other insurers') fee levels affect the willingness of office-based physicians to treat Medicaid recipients. Little research has been conducted on the impact of Medicaid fee levels on the more general issue of beneficiary access to needed medical services. Relevant studies in each of these areas are presented below.

Physician Participation in Medicaid. It was shown earlier that a large percentage of office-based physicians do not regularly treat Medicaid patients (Tables 16-2 and 16-3). A number of factors are responsible for low physician participation rates in the Medicaid program.[23] This review focuses on only one--differences in physician fee levels paid by Medicaid. Other factors may also have an important impact on physician willingness to treat Medicaid patients but they will not be discussed here.

Several studies have been conducted on how Medicaid fee levels affect the provision of care in physician offices, although almost all rely on data from at least ten years ago. Practically every study has reached the same conclusion: that higher Medicaid fees result in greater physician participation in the program. These results are obtained from studies using different sources of data (for example, surveys versus claims records), definitions of participation, and estimation procedures, and appear to apply to all medical specialties (Davidson 1982; Davidson et al., 1983; Hadley, 1978; Held et al., 1983; Mitchell, 1983; Mitchell et al., 1984; Perloff et al., 1986; Sloan et al., 1978).

These studies have subdivided physician participation into as many as three components: (1) whether physicians treat any (or some minimal number) of Medicaid patients; (2) how many patients are treated by participating physicians; and (3) the amount and complexity (in terms of relative value units, or RVUs) of services provided per patient. In general, higher Medicaid fees have been found to increase both the likelihood that a physician will treat any Medicaid patients (with elasticities[24] generally ranging from +0.2 to +0.7) and the number of patients they treat (with elasticities generally ranging from +0.3 to +1.8). However, the two studies that examined the third measure of participation (Hadley, 1978; Held et al., 1983) found that paying higher Medicaid fees to office-based physicians results in the provision of fewer Medicaid RVUs per physician for physicians who treat Medicaid patients (with elasticities ranging from no effect to -0.9).

---

[23] These factors include physician characteristics, the number and type of physicians in an area, population characteristics, and various aspects of the each state's Medicaid program. The amount of administrative hassle involved in filing claims and receiving payment has also been consistently shown to result in lower Medicaid physician participation. A review of how these factors affect physician participation is contained in Lewis-Idema (1988).

[24] An elasticity indicates the percentage change in a dependent variable divided by the percentage change in an independent variable, controlling for the effects of other independent variables. In this case, an elasticity of +0.5 would mean that as Medicaid fees rise by 1 percent, the likelihood that a physician would participate in the program would rise by 0.5 percent.

The finding that higher Medicaid fees result in greater physician willingness to treat Medicaid patients is consistent with the theory that Medicaid and other insurers compete for physicians through their fees.[25] In fact, most of the studies cited above also included measures of either the Medicare fee or private insurer fees in their analysis. They found that when these competing payers pay higher fees, physicians are less likely to treat Medicaid patients (Hadley, 1978; Held et al., 1983; Mitchell, 1983; Mitchell et al., 1984; 1986; Sloan et al., 1978). As noted below, however, this does not necessarily mean that Medicaid patients will go without care. Rather, they may find other physicians who are willing to treat them, such as high-volume Medicaid practices. Or they may obtain their care in other settings such as hospital outpatient departments, emergency rooms, and local health department clinics.

There is some new evidence, however, that casts some doubt on whether higher fees, by themselves, will still result in major improvements in access to care. In examining Medicaid recipients' access to obstetrics/gynecology services in Cook County, Illinois, Fossett, et al. (1990) concluded that recent Medicaid eligibility expansions would not improve access due to the severe shortage of obstetrician/gynecologists practicing in inner city areas. Moreover, modest increases in Medicaid physician fees would not be sufficient to attract an adequate supply of physicians to these areas. Short of raising Medicaid fee levels to match those of other payers, the study concludes that policies should be aimed at improving access through expanded support to inner city hospitals, community health centers, and local public clinics, and perhaps through reinstatement of the National Health Services Corps.

A related question concerns the quality of physicians who treat Medicaid beneficiaries. Unfortunately, data limitations have not allowed researchers to address this question in a satisfactory manner--no studies have been able to address the quality of care that is delivered. Instead, they rely on indicators such as physician credentials as a proxy for quality. Furthermore, as noted below, the studies that have touched upon this issue sometimes reached conflicting results.

---

[25] It is more difficult to understand why higher Medicaid fees appear to result in the provision of fewer RVUs (and conversely, that low fees result in more RVUs). One possibility is that when physicians consider Medicaid fees to be more nearly adequate, they do not provide more services than are absolutely necessary, but when fees are low, some physicians may find it worthwhile to treat Medicaid patients only by providing and billing for a more complex set of services. However, the studies do not have sufficient data to test this hypotheses, so such conclusions are merely speculative.

Two variables that are most often used to assess the quality of physicians is whether physicians are board-certified and whether they graduated from foreign medical schools. Most studies have found that foreign medical graduates are more likely than their domestic counterparts to treat Medicaid patients (Mitchell et al., 1984; Perloff et al., 1986; Sloan et al., 1978). Board certification, however, does not appear to have a consistent effect on Medicaid participation (Mitchell, 1983).

With respect to whether Medicaid patients must rely on so-called Medicaid mills--reputedly, places in which poorly trained physicians provide a vast number of services to Medicaid beneficiaries in order to extract large profits--there has been very little research and most of it employs data from almost 15 years ago. Practices that are heavily dependent on Medicaid are not identical to those that are not (for example, foreign medical graduates are more likely to see more Medicaid patients). However, most of the former probably could not be characterized as Medicaid mills, in part because physicians with such practices do not earn higher incomes than most of their counterparts (Mitchell et al., 1980; Mitchell et al., 1981).

Some new evidence from the Chicago area, however, implies that inner city obstetrician/gynecologists with large Medicaid practices may have some characteristics consistent with Medicaid Mills (Fossett et al., 1990). Such practices treat far more patients than typical obstetrician/gynecologists. These findings should be used with caution because they are based on incomplete data and a number of assumptions (for example, that these volumes are not the result of increased efficiency), and apply directly only to the Chicago area.

Access to Medical Services in General. Although several studies have focused on physician participation in Medicaid, few have directly addressed the issue of how Medicaid fee levels affect beneficiaries' access to medical care.[26] Of the studies that have examined beneficiary access, however, most have concluded that the number of services Medicaid recipients receive does not appear to be related to Medicaid physician fee levels.

One study that addressed this issue found that there was no relationship between total utilization of physician services and Medicaid fee levels (Long et al., 1986). The data set used for the study, the 1978 National Health Interview Survey, is now somewhat dated. Therefore some of the relationships found may have changed. The study employed multivariate techniques to examine how Medicaid fee levels affected three measures of access: (1) whether a Medicaid beneficiary used any physician services in a year; (2) the number of services used; and (3) the place of treatment. It found that in places with low physician fees, Medicaid beneficiaries were just as likely to see a physician at some time during the year and received just as many physician services. Fee levels, however, had an impact on the site in which services were received. In places where Medicaid fees were as high as Medicare's, 65 percent of visits took place in physician offices. This fell to 52 percent in places with Medicaid fees that were only half as high as Medicare's. In other words, 13 percent more visits took place in other (non-office) settings, such as outpatient hospital departments, emergency rooms, local health departments, and community and migrant health centers.[27]

---

[26] The reason that there has been so little research on this topic compared to physician participation in Medicaid may relate to data availability. Analysts have found it convenient to conduct studies on participation in Medicaid from the physician's perspective because a number of national surveys of physicians contain the necessary information and because claims data from carriers are easily organized by provider number. It has been more difficult to analyze utilization from the beneficiary perspective because few data sets have detailed information on a sample of Medicaid beneficiaries sufficiently large for statistical analysis.

A second study also failed to find a relationship between Medicaid fees and the number of Medicaid recipients receiving services (Cohen, 1989). The study employed a state-level multivariate analysis for determining the impact of Medicaid fees on the number of individuals receiving Medicaid services in a given year. Data were obtained from a variety of sources including HCFA reports from 1981 to 1984 that provide detailed state data on Medicaid utilization and expenditures. The study concluded that states with higher Medicaid fees did not have a higher proportion of Medicaid beneficiaries receiving Medicaid services. A final study, relying on data from the 1980 National Medical Care Utilization and Expenditure Survey, examined the use of services by children. It concluded that Medicaid fee levels had no effect on whether a low-income child had any contact with physicians, nor on the number of services received (Rosenbach, 1989).

In summary, none of the studies found a relationship between physician fees and whether a Medicaid beneficiary receives services. Given the results (presented earlier) that states with higher fees have more office-based physicians who are willing to treat Medicaid patients, the above studies imply that Medicaid beneficiaries in states with low fees do manage to secure care, but not as easily in physicians' offices. This probably occurs because they receive a greater proportion of services in hospital outpatient and other clinic settings, and in fact, this is the conclusion of several studies (Cohen, 1989; Gold, 1982; Holahan, 1982; Long et al., 1986).

Program Expenditures

Very few studies have been conducted on how Medicaid physician fee levels affect overall program expenditures. Several effects are possible. On the one hand, higher physician fees directly increase expenditures going to those physicians who already treat Medicaid patients. On the other hand, these expenditure increases associated with higher fees could be partially offset if they resulted in the provision of more services in the office rather than in other settings, and if office settings were less costly.

---

[27] The authors decomposed the 13 percent figure to determine where patients go in states with low Medicaid fees, and found that 50 percent of these visits took place in freestanding clinics, 35 percent in hospital outpatient departments, and 15 percent in emergency rooms.

Although there is little research on this issue, most of it has found that higher Medicaid fees result in the provision of more care in offices and less in hospital outpatient departments -- that is, office care is substituted for outpatient department care. Moreover, although the data on the relative costs of care in different settings is very sparse, most studies have concluded that office care costs less than hospital outpatient department care.

One study (discussed earlier) found that areas with higher Medicaid fees did not experience higher rates of physician utilization by program beneficiaries (Long et al., 1986). However, it was found that places with higher fees had more physician care provided in offices and less provided elsewhere. Similarly, another study found that there was an inverse relationship between Medicaid fees and the use of hospital outpatient (although not emergency room) departments (Gold, 1984).

The substitution of office services for services in other settings could achieve savings if either (or both) of the following are true: (1) Medicaid office fees are lower than fees in other settings, and (2) episodes of care that begin in an office setting employ fewer health resources (for example, if they are less likely to result in hospitalization). Whether office fees are lower varies state-by-state, and unfortunately, no recent compilation of these data is available.[28] It has been reported, however, that "reimbursement methodologies for outpatient departments have historically been relatively generous," particularly in those states (of which there were 24 as of 1984) which pay these departments based on costs incurred rather than a fee schedule (Cohen, 1989).

With respect to the amount of resources that go into visits initiated in different settings, there is some evidence to indicate that even after adjusting for case mix, care that begins in offices uses fewer resources, primarily because it is less likely to result in hospitalization (Fleming et al., 1983). A more recent study used data from the Michigan Medicaid program to construct episodes of illness to further examine the relationship between place of care and use of resources (McDevitt et al., 1987). It found that AFDC children who began their episodes in an outpatient hospital department had expenditures that were between 68 percent and 119 percent greater than those whose episodes began in the office, after controlling for case-mix differences. These differences were largely due to the greater likelihood of hospitalization when a child's care was initiated in an outpatient department.

---

[28] As part of the work plan presented below, the Commission plans to conduct a survey of each state's Medicaid program that will provide information on fee levels in office and other settings.

Two studies have been conducted on the relationship between Medicaid fees and program expenditures. The first calculated the cost of raising fees to Medicare levels to be $1.5 billion. This project, conducted for the Health Policy Agenda for the American People (Thorpe et al., 1989), used findings from previous research (Long et al., 1986; Gold, 1984) to simulate the effects of various proposed changes in Medicaid, one of which was to raise Medicaid physician fees to Medicare levels. It arrived at the $1.5 billion figure by accounting for the effect of increased fees on increasing office visits and reduced outpatient utilization. However, the study did not incorporate the possibility that more office care might also reduce inpatient utilization; to the extent that it does, total expenditures might be lower.

One study (Cohen, 1989), discussed above, directly estimated the relationship between fees and expenditures. The author found that every 1 percent increase in fees was associated with a 0.5 percent increase in Medicaid expenditures. One of the reasons that the relationship was less than one-to-one was that there was an inverse relationship between the number of recipients of outpatient care and Medicaid fees, indicating the apparent substitutability between outpatient and office services.

This study is noteworthy because it explicitly analyzes the costs associated with increasing Medicaid physician fee levels. Caution should be used, however, in interpreting these results. First, the relationships may have changed since the data were collected (1981 to 1984). Second, the measure of physician fees in each state was based on only two services: brief office exams and appendectomies. Third, data on actual fees for outpatient hospital services were unavailable. Finally, the study did not examine how physician fees affected hospital admissions, one possible source of savings found by other researchers.

In viewing all of the studies in this section, it should also be kept in mind that they examine the effects of raising Medicaid fees to Medicare CPR levels rather than to the proposed Medicare Fee Schedule. If a higher proportion of Medicaid services (as opposed to Medicare's) is for primary care, then raising Medicaid fees to Medicare Fee Schedule levels might be more costly than the above estimates suggest. Costs might also be higher if higher Medicaid fees induced physicians to submit a greater proportion of claims. There is much anecdotal evidence to suggest that some physicians do not submit claims for many of their Medicaid services due to low fee levels.

Summary

This section has indicated that there are very few aspects of Medicaid physician payment about which much is known with confidence. The one finding in which a consensus appears to have been reached is that higher physician fees result in an increase in access to physician office care by Medicaid beneficiaries. However, because almost all studies on this topic used data from over ten years ago, there is some question as to whether these results still hold.

Although previous research is not conclusive, the few studies that have been conducted are consistent on two related points. First, Medicaid beneficiaries in states with low physician fees appear to have access to the health care system on par with beneficiaries in states that have higher physician fees. Nevertheless, they are more likely to receive their care in settings other than physicians' offices. Beyond these findings, little is known about Medicaid physician fees or their impacts on access and program expenditures. The next section provides a work plan for addressing some of these issues.

WORK PLAN

By July 1, 1991, the Commission is to submit a report to the Congress on physician fees under the Medicaid program that examines the adequacy of Medicaid physician reimbursement, physician participation in the program, and access to care for program beneficiaries. To this end, the Commission has planned a series of research activities to be completed in the coming year. These include:

- collecting additional descriptive information on Medicaid physician payment by surveying state Medicaid programs;
- developing a simulation model to conduct analyses on how alternative physician payment methodologies are likely to affect utilization, as well as state and federal Medicaid expenditures for physician services; and
- analyzing the experiences of states that have changed physician fee levels to determine how these changes appear to have affected access and expenditures.

These activities are described below.

Survey of State Medicaid Programs

Currently, there are no consistent and complete data available on Medicaid physician payment methodologies and fees across states. This information will be obtained from a Commission survey of state Medicaid programs, which currently is being conducted by the National Governors' Association (NGA). It will collect information on: (1) actual fee levels in each state for approximately 20 of the most common services used by the

Medicaid population; (2) total expenditures for the services examined; (3) how recently the fees have been updated; (4) the composition of a number of surgical bundles; and (5) the distribution of the Medicaid case load among physicians. The survey will provide much new information on Medicaid fee levels and the extent of variation across states. More importantly, it will permit analysis of the consequences of changing fee levels.

Simulation Model

With the introduction of the Medicare Fee Schedule, states will have access to an alternative method of paying for Medicaid physician services. The Commission plans to develop simulation models to assess the effects of introducing a resource-based fee schedule on the Medicaid program.

Fee information from each state will be merged with HCFA data on Medicaid utilization and expenditures.[29] Multivariate analyses will be conducted to estimate the impact across states of alternative physician fee levels on Medicaid utilization and spending for different types of services and categories of beneficiaries. For example, changes in fee levels may affect utilization of primary care services differently than surgery, or elderly beneficiaries differently than children.

As discussed previously, some recent research indicates that factors such as low physician supply and residential segregation may be even more important than low physician fees in impeding beneficiary access to Medicaid services. The analysis will be designed so that the impact of fee levels can be distinguished from these other determinants of utilization and expenditures.

Whereas previous research studies have been based on an index composed of only one or two fees, in this study the fee index will be constructed from data on a wide range of procedures commonly used by the Medicaid population. The analysis will also explicitly account for any fee differences between services provided in office or other settings. Other issues to be addressed include the extent to which fee differences across settings result in the substitution of one type of service for another, and how changes in physician fees might affect physicians' willingness to treat Medicaid beneficiaries.

Once the analysis of the relationship between utilization, expenditures, and physician fees is completed, simulation models will be designed to estimate the likely effects of a range of alternative ways of incorporating the principles of the Medicare Fee Schedule. For example, models will be developed to examine the impact of adopting: (1) the new Medicare fee levels; (2) fees based on a fixed percentage (for example, 80 percent) of the Medicare Fee Schedule; and (3) fees based on Medicare Fee Schedule relative values with a conversion factor that would be budget neutral in each state.[30]

---

[29] The data are compiled by HCFA from state submissions of HCFA form no. 2082. These forms include information on the number of services provided and total payments for Medicaid services, by type of beneficiaries (aged, blind, disabled, AFDC children, and AFDC adults) and by each of 19 types or places of service (e.g., inpatient hospital, outpatient hospital, clinic, physician).

Natural Experiments

The Commission's survey will also provide information on states that have recently implemented major changes in physician fees (either across-the-board or selectively). In these instances, case studies can then be conducted to determine how fee changes appeared to affect access and expenditures. When states have altered their fees but not other facets of their Medicaid programs (such as the number or type of covered services), such "natural experiments" will be of particular interest. Given the unique characteristics of each state and its Medicaid program, however, caution must be used in extrapolating case study results to the remaining states.

Developing Recommendations

These data collection and research activities have been designed to provide the Commission with much of the information it will need to develop recommendations to the Congress on the reform of Medicaid physician payment policies. Furthermore, as other data sources (for example, the newly completed National Medical Expenditures Survey and Physician Practice Cost Survey) become available for analysis, relevant findings will be incorporated.

The Commission recognizes that it will also be important to draw upon the experience of state Medicaid officials. The states have already experimented with a variety of approaches to improve access to physician care under Medicaid. While some states have decided to increase physician payment to improve beneficiary access, others have found different approaches, such as expanding managed care options and reducing administrative burdens, to be more appropriate. Consequently, the Commission hopes to work closely with states in furthering its understanding of Medicaid payment issues.

---

[30] Because only about 20 services can be included in the survey, it will be necessary to extrapolate fees for the remaining services. These estimates will be validated by collecting and analyzing information on all Medicaid services from selected states that use a variety of approaches to physician payment.

REFERENCES

American Medical Association, "Medicaid Participation Declines," *SMS Report* 3(5), Chicago, September 1989.

Cohen, J., "Medicaid Policy and the Substitution of Hospital Outpatient Care for Physician Care," *Health Services Research* 24(1):33-66, April 1989.

Cromwell, J., S. Hurdle, and R. Schurman, "Defederalizing Medicaid: Fair to the Poor, Fair to Taxpayers?," *Journal of Health Politics, Policy, and Law* 12(1):1-34, Spring 1987.

Davidson, S., "Physician Participation in Medicaid: Background and Issues," *Journal of Health Politics, Policy, and Law* 6(4):703-717, Winter 1982.

Davidson, S.M., J.D. Perloff, P.R. Kletke, et al., "Full and Limited Medicaid Participation Among Pediatricians," *Pediatrics* 72:552-559, 1983.

Fleming, N. and J. Jones, "The Impact of Outpatient Department and Emergency Room Use on Costs in the Texas Medicaid Program," *Medical Care* 21(9):892-910, September 1983.

Fossett, J., J. Perloff, J. Peterson, et al., "Medicaid in the Inner City: The Case of Maternity Care in Chicago," *The Milbank Quarterly*, forthcoming, 1990.

Gold, M., "The Demand for Hospital Outpatient Services," *Health Services Research* 19(3):383-411, August 1984.

Hadley, J., *Physician Participation in Medicaid* Working Paper No. 9-998-9, Washington, D.C.: The Urban Institute, April 1978.

Health Care Financing Administration (HCFA), *Analysis of State Medicaid Program Characteristics, 1986*, HCFA Pub. No. 03249, Baltimore, MD: U.S. Department of Health and Human Services, August 1987.

Health Care Financing Administration (HCFA), *Medicare and Medicaid Data Book, 1988*, HCFA Pub. No. 03270, Baltimore, MD: U.S. Department of Health and Human Services, April 1989.

Held, P., J. Holahan, and C. Carlson, *The Effect of Medicaid and Private Fees on Physician Participation in California's Medicaid Program, 1975-1978*, Working Paper No. 1306-02-01, Washington, D.C.: The Urban Institute, January 1983.

Holahan, J., *A Comparison of Medicaid and Medicare Physician Reimbursement Rates*, Working Paper No. 1306-02-04, Washington, D.C.: The Urban Institute, March 1982.

Holahan, J., "Paying for Physician Services in State Medicaid Programs," *Health Care Financing Review* 5:99-110, Spring 1984.

Holahan, J. and J. Cohen, *Medicaid: The Trade-off between Cost Containment and Access to Care*, Washington, D.C.: The Urban Institute Press, 1986.

Kletke, P.R., S.M. Davidson, J.D. Perloff, et al., "The Extent of Physician Participation in Medicaid: A Comparison of Physician Estimates and Aggregated Patient Records," *Health Services Research* 20(5):503-523, December 1985.

Luehrs, J., Director of Health Programs, National Governors' Association, State Medicaid Information Center, personal communication, March 1, 1990.

Lewis-Idema, D., *Increasing Provider Participation*, Washington, D.C.: National Governors' Association, 1988.

Long, S., R. Settle, and B. Stuart, "Reimbursement and Access to Physicians' Services Under Medicaid," *Journal of Health Economics* 5:235-251, 1986.

Lopez, L., "Medicaid and HMOs: How Viable a Relationship?" *GHAA News* 30:3-9, November-December 1989.

McDevitt, R. and B. Dutton, *Expenditures for Ambulatory Episodes of Care: The Michigan Medicaid Experience*, Baltimore, MD: Health Care Financing Administration, Office of Research, December 16, 1987.

Mitchell, J., "Medicaid Participation by Medical and Surgical Specialists," *Medical Care* 21(9):929-938, September 1983.

Mitchell, J. and J. Cromwell, "Medicaid Mills: Fact or Fiction," *Health Care Financing Review* 2(1):37-49, Summer 1980.

Mitchell, J., J. Cromwell, and B. Dutton, "Large Medicaid Practices: Are They Medicaid Mills?," *Health Care Financing Grants and Contracts Report*, Baltimore, MD: Health Care Financing Administration, March 1980.

Mitchell, J. and R. Schurman, "Access to Private Obstetrics/Gynecology Services Under Medicaid," *Medical Care* 22(11):1026-1037, November 1984.

National Association of State Budget Officers, *State Expenditure Report, 1989,* Washington, D.C., 1989.

Perloff, J., P. Kletke, and K. Neckerman, "Recent Trends in Pediatrician Participation in Medicaid," *Medical Care* 4(8):749-760, August 1986.

Rosenbach, M., "The Impact of Medicaid on Physician Use by Low-Income Children," *American Journal of Public Health* 79(9), September 1989.

Sloan, F., J. Cromwell, and J. Mitchell, *Private Physicians and Public Programs*, Lexington, MA: Lexington Books, 1978.

Thorpe, K., J. Siegel, and T. Dailey, "Including the Poor: The Fiscal Impacts of Medicaid Expansion," *Journal of the American Medical Association* 261(7):1003-1007, February 17, 1989.

U.S. Congress, Congressional Research Service, *Medicaid Source Book: Background Data and Analysis*, Washington, D.C.: U.S. Government Printing Office, November 1988a.

U.S. Congress, Office of Technology Assessment, *Healthy Children: Investing in the Future*, OTA Pub. No. OTA-H-345, Washington, D.C.: U.S. Government Printing Office, February 1988b.

APPENDIX A

December 22, 1989

The Honorable Louis W. Sullivan, M.D.
Secretary of Health and Human Services
Washington, D.C. 20201

Dear Mr. Secretary:

The Commission is pleased to have had the opportunity to review the three reports to Congress on Medicare physician payment that the Department submitted on October 18, 1989: Volume and Intensity of Physician Services, Relative Value Scale for Physician Services, and Implementation of a National Fee Schedule.[1] The reports indicate much agreement between the Department and the Commission both on broad policy directions, such as the need to couple a resource-based fee schedule with an expenditure growth target and financial protection for beneficiaries, and on specific questions such as those related to the evaluation of the Harvard RBRVS study.

As we look toward implementation of the payment reform legislation recently passed by Congress, the Commission hopes to continue to work closely with the Department and, in particular, with the Health Care Financing Administration. It is in this vein that I wanted to comment on the Department's approach to several issues discussed in the reports to Congress and to advise you of work underway by the Commission that may be helpful to your staff in addressing certain questions.

We praise the Administration for its key role in the passage of Medicare physician payment reform legislation. But, given the Administration's endorsement of a reform package that included a resource-based fee schedule, the Commission was puzzled by the ambivalence toward such a fee schedule that was reflected in these reports. The Commission shares the Administration's concern that the fee schedule alone will not slow Medicare spending for physician services sufficiently. At the same time, we are more confident that by altering the incentives for providing different physician services, a resource-base fee schedule can reinforce policies designed to reduce the volume of services. Moreover, the Commission holds strong beliefs that a policy that meets the goal of saving program dollars while also maintaining access and financial protection for beneficiaries must have as a prerequisite a payment method that treats physicians fairly. For these reasons, the Commission has considered the resource-based fee schedule an integral part of the physician payment reform package. Now that the legislation has passed, we are confident that the Department will do everything necessary to assure its successful implementation.

---

[1] The Consolidated Omnibus Budget Reconciliation Act of 1985 (Public Law 99-272) requires the Commission to advise and make recommendations to the Secretary respecting the development of the relative value scale.

The Commission believes that continuation of comparability screens, as suggested in HCFA's report on implementation, would compromise the goals of the Medicare fee schedule. Applying comparability screens under the Medicare fee schedule or during the transition to the fee schedule would allow full reductions in the payments for overvalued services while artificially holding down payments for undervalued services from what would have occurred with full implementation of the Medicare fee schedule. At a time when Medicare is taking the lead in realigning payments, application of comparability screens seems inconsistent with the intent of moving to a resource-based payment system.

The Commission is also concerned about the suggestion that implementation of the fee schedule might be used to achieve out-year budget savings. The purpose of replacing the current payment method with a fee schedule is to realign payments to reflect the costs of providing different physician services, not to reduce expenditures below current levels. While the President and Congress will have to determine the level of physician reimbursement that can be accommodated within the federal budget, that decision should be kept separate from the fee schedule as it was this year in the Omnibus Budget Reconciliation Act of 1989.

Physician Response to Payment Changes

The payment reform legislation requires that the conversion factor for the Medicare fee schedule be constructed to achieve budget neutrality. The assumptions made about physicians' responses to changes in payment that will occur under a resource-based fee schedule will, therefore, be a key factor in determining what that conversion factor will be. In the report Relative Value Scales for Physician Services, HCFA notes that in estimating the response of physicians to changes in payments, HCFA's Office of the Actuary has traditionally used the assumption that 50 percent of the budget savings from decreases in fees will be offset by induced increases in the volume of services. It assumes no corresponding behavioral response to fee increases. The notion of using a substantial offset for decreased fees and none for fee increases seems inconsistent with the best analyses available, including recent work by the Congressional Budget Office showing that 37.5 percent of the gain to physicians from increased fees to be offset by lower volume of services. Since such an approach is likely to lead to the conversion factor being set too low, the Commission strongly encourages the Department to avoid using extreme assumptions without solid support from the most thorough analyses available.

Calculating Budget Neutrality

Throughout the report on implementation, the issue of "budget neutrality" is raised. At many points, options are downplayed or dismissed because of alleged difficulties in making budget neutrality calculations. The Commission believes that budget neutrality calculations will be far less problematic than the report implies and should not stand in the way of developing sound policy.

The Commission appreciates the importance that HCFA places on this task and HCFA's desire to do the most accurate job possible. It is generally recognized, however, that precise budget neutrality will not always be achieved despite the best analytical efforts to do so. For example, implementation of the fee schedule requires uniformity in the definitions and use of procedure codes. Changes in the coding system to achieve such uniformity are being considered by both the Commission and HCFA. When coding is reformed, one will not know exactly how many services will be billed under each new code. But the net effects of various projection errors can be offset through adjustments in the conversion factor under volume performance standards. Indeed, errors in projecting budget neutrality due to coding changes may be small in relation to errors from other aspects of implementation of the fee schedule. The potential of volume performance standards to offset various projection errors is a very important aspect of the policy that is often overlooked.

More focused adjustments that concentrate on subsets of services, such as visits or surgical services paid under a global fee would be even more desirable. For example, a separate budget neutrality adjustment could be devised for the coding changes for visit services. The relative values for the new visit codes could all be adjusted to reflect the fiscal impact of billing patterns diverging from what had been projected. The Commission is planning to develop recommendations in this area as it continues its work in refining the fee schedule.

The Commission's staff has been working on the issues related to calculating relative values that maintain budget neutrality and has found that there are a number of sources of data that make the potential problems quite tractable. For example, data from the National Ambulatory Medical Care Survey can be used to estimate the proportions of office visits in different time intervals. Similarly, adjusting relative values for surgery to reflect the Commission's definition of a global service can be based on the Commission's carrier survey, which had a response rate of 98 percent. We would be pleased to share information gathered and analyzed by the Commission with HCFA staff.

Coding Issues

The Commission agrees that the Secretary should have flexibility to make decisions about technical issues in the implementation of the fee schedule. Some issues characterized as "complex technical issues" in the Department's report, however, have major policy implications that may warrant further Congressional consideration. This is particularly true in the area of coding reform, in which the Commission strongly differs with the HCFA implementation interpretation and critique of the Commission's work. My comments below both clarify the Commission's work on coding issues and point out areas of possible disagreement that could benefit from discussion between our staffs.

Coding policy undergirds the fee schedule. It provides the basis for assigning accurate relative values. Because coding policy is such an integral part of the development of the fee schedule, not just its implementation, and because there are strongly held views about the objectives of coding reform, the Commission has devoted considerable resources to analyzing coding issues and developing recommendations through consensus processes that address the diverse concerns of all affected parties.

While the implementation report does not present specific policy recommendations, its tone suggests a philosophical preference for bundling and consolidating services to minimize potentially costly "gaming" by physicians. HCFA's comments on the Commission's recommendations suggest pessimism about the possibility of designing uniform national policies that are clinically meaningful, allow accurate assignment of relative values, can be audited to assure proper use of physicians, minimize gaming opportunities for physicians and allow for budget neutrality calculations. In fact, these are the very goals that the Commission's work on coding (starting with its recommendation on the surgical global service) is designed to achieve.

Coding for Surgical Global Services. Last year, the Commission, with help and unanimous approval of a panel of surgeons and Medicare carrier representatives, developed a global service policy that reconciles the goals of each group directly affected by the coding policy (surgeons, carriers, beneficiaries, policy analysts and researchers). These goals required that the policy:

- be clear and clinically meaningful,
- be administratively simple, verifiable, and reflect dominant carrier practice,
- facilitate the assignment of accurate relative values to surgical services,

- protect access to care by beneficiaries,
- promote equity among physicians, especially for surgeons who care for patients with complex conditions,
- limit the potential for gaming, and
- provide claims data that can be used for monitoring, planning, and research.

In examining the options for surgical global payment, the Commission concluded that these goals could not have been met when services in addition to those included in the Commission's recommended policy were added to the bundle.

HCFA's primary criterion for the global surgical definition is that it approximates current dominant Medicare carrier practice. The Commission's global service policy achieves this goal. Although Medicare carriers differ substantially in their overall global service policies, the Commission was able to identify a dominant carrier approach for each component of the global package using data from its 1988 Medicare Carrier Survey.[2] Most carriers include postoperative hospital and office visits (90 days is the dominant timeframe for most operations) and the usual and necessary intraoperative services in their global service but exclude the initial consultation, preoperative visits, most nonoperative technical procedures, and additional surgery related to complications. Contrary to HCFA's description, the Commission's policy is not a "minimum" global bundle that excludes important services currently covered by most carriers' global policies. Rather, the Commission's policy closely reflects current carrier practice, with the exception that it includes more preoperative visits than do most carriers.

The Commission's policy was designed to facilitate the assignment of accurate relative work values to surgical global services. It includes component services for which accurate relative work values are available or can be determined (the operation itself and the pre-and postoperative visits typically associated with each operation during the global service timeframe). And, it excludes services that would be difficult to value accurately because they vary substantially among different patients undergoing the same operation. Since the value of excluded services is not included in the global fee, surgeons who were paid separately for performing those services when medically indicated would not be receiving duplicate payment.

---

[2] See PPRC Background Paper No. 89-2, Variation in Medicare Global Service Policies: Relationship to Current Payment and Implications for a Fee Schedule.

There is no reason to believe that gaming would be more prevalent with the Commission's policy than it is under current policy, since the Commission's global service policy closely follows dominant carrier practice. In addition, the panel of surgeons and carrier representatives explicitly considered potential gaming problems in their development of the Commission's global service policy and drafted the wording to restrict the opportunities for physicians to receive additional payments through gaming. Also, the Commission is currently developing information that can be used by carriers to detect intraoperative double billing. We look forward to sharing this information with HCFA as it becomes available.

In addition to making specific decisions in the design of a policy to limit opportunities for gaming, the Commission feels that a key element of reducing gaming is to ensure that the bulk of physicians regard the overall policy as a fair one, in which payment reflects the work involved in providing the component services encompassed by each code.

Reforming Codes for Evaluation and Management Services. HCFA concurs with the Commission that: (1) codes for physician services must be interpreted uniformly under a national fee schedule; and (2) currently, there is wide variation in the way physicians and carriers interpret CPT codes for evaluation and management (EM) services. To minimize this variation, HCFA's report recommends consolidating EM codes rather than clarifying the current ambiguous definitions for levels of service.

The HCFA report does not present an analytic rationale for consolidating EM codes. The Commission has considered this option, however, and believes that consolidating codes is not the most appropriate policy solution. In its 1989 Report to Congress, the Commission presented the results of analyses showing that consolidation of codes would undermine the assignment of precise and equitable relative values to EM services because each code would have to encompass too broad a range of services. It also pointed out that based on evidence that physicians tend to use higher levels of codes when there are fewer codes to choose from, consolidation of EM codes could increase the magnitude of "upcoding."

The Commission is working to revise the definitions of EM codes to make their interpretation more uniform. Its analysis of data from the Hsiao study suggests that this could be accomplished if time (as well as other relevant descriptors) were incorporated in the definitions. While HCFA is skeptical about this approach based on its perception of the difficulties in calculating budget neutrality, this policy direction now has broad-based support, not only from the Commission, but from Hsiao and his colleagues, the Ad Hoc Committee on Visits and Levels of Service of the American Medical Association (AMA), and many specialty societies.

Recognizing the policy significance of EM coding reform and the diverse needs that a balanced policy must address, the Commission, together with the AMA, is convening a consensus panel comprised of physicians and other health professionals who provide EM services, carrier representatives, coding experts, and beneficiaries. The process has been structured to produce time-incorporating codes that are clear, clinically meaningful, and meet the concerns expressed by HCFA about minimizing opportunities for potentially costly misuse of the coding system.

Consolidation of Unvalued Codes. Consolidation of unvalued codes, which is favored by HCFA, is a de facto way of assigning the same relative value to each code in a group. But this sacrifices potentially relevant information for program monitoring and research purposes. The HCFA report notes, and we reiterate, the Commission's position that if code definitions are precise under a resource-based fee schedule, there is no need to reduce the number of codes deemed to be of similar value. Rather, the codes that distinguish each service can be retained, with each being assigned the same relative value. Also, carriers have commented to the Commission that with computerized administration of Medicare payment, consolidating codes is unnecessary and may deprive carriers of useful information.

As HCFA noted, there may be some codes that are used so infrequently that they could be eliminated altogether. Such codes could be brought to the attention of the CPT Editorial Panel by HCFA, the Commission, carriers and others and dealt with in the established processes for updating the coding system.

Local Codes and Modifiers. The Commission supports HCFA's current efforts to eliminate local codes and modifiers. This is an important step in creating a uniform national payment system. For this reason, the Commission is concerned that local codes and modifiers, with locally-established relative values, might be used for new services for at least several years between national updates of the relative value scale. The Commission recognizes a short-term need for carriers to make payment decisions for new services. But, to minimize local variation, it encourages HCFA to develop a system for prompt reporting of carrier needs to code and value new services and for timely assignment of national codes and values to be adopted by all carriers on an ongoing basis.

In arguing for Secretarial discretion on coding issues, HCFA makes clear the importance of coding policy by raising concerns about the difficulties of calculating budget neutrality and about physician gaming. The Commission shares these concerns and seeks a dialogue with HCFA staff about sound policies that address these issues. We expect that, at least in part, HCFA has misinterpreted the Commission's recommendations and that further discussions with HCFA staff will reveal our positions to be more compatible. Commission and HCFA staff recently met to review some of the issues I have described above and had a very productive discussion. We will be pleased to share information from our analyses with HCFA and plan to work closely with HCFA staff to clarify issues and concerns on both sides.

Specialty Differentials

As HCFA noted in its report on implementation issues, a national fee schedule requires uniform policies regarding specialty recognition and designation. HCFA is currently considering the elimination of specialty differentials.

While the Commission supports the absence of specialty differentials in the Medicare fee schedule, it considers it inadvisable to eliminate specialty differentials for evaluation and management (EM) services prior to reform of the EM coding system. Specialty differentials accommodate specialty-specific differences in the interpretation and use of current EM codes. Without revisions in EM coding that allow the codes to be used uniformly by all specialties, The specialty differentials are required for equitable payment. Therefore, it is premature to eliminate specialty differentials for EM services while the current coding system is in use.

As contemplated in the payment reform legislation, once coding reform is completed, specialty differentials should be eliminated. While uniform definitions of specialties will then no longer be needed to modify payment under the Medicare fee schedule, they will still be needed for implementation of volume performance standards, development of utilization review screens, and for program monitoring and research purposes. Therefore, specialty designations should continue under the Medicare fee schedule. While there are drawbacks associated with the current system of self-designation, it should be continued while improved methods are being developed.

Additional Commission Studies of Interest to HCFA

The Commission is currently working on a number of issues related to the implementation of the Medicare fee schedule and volume performance standards. It will be reporting on its analyses in its report to Congress next March. In addition, the Congress has mandated studies by the Department and by the Commission that are of mutual interest. Among the issues mentioned in the Department's reports that are also on the Commission's agenda are the definition of geographic payment areas for the Medicare fee schedule, development of subnational volume performance standards, policies allowing physicians to opt out of the general volume performance standard, methods for estimating and incorporating practice costs (and malpractice premium costs) into the fee schedule, and payment of assistants at surgery, physician assistants and other practitioners. We hope to continue to work closely with HCFA staff during the coming year on these and other issues.

In closing, I wanted to note how pleased the Commission is that the Department has moved forward with implementation of the Current Beneficiary Survey. The Commission agrees with the Department that the need to monitor beneficiary access to physician services is heightened by the changes introduced by physician payment reform. The Survey will play a critical role in providing data that are not available from other sources. The Commission appreciates your efforts to assure that the Survey would begin promptly, so that valuable baseline information for the monitoring system will not be lost.

Sincerely,

Philip R. Lee

Philip R. Lee, M.D.
Chairman

APPENDIX B

OVERVALUED PROCEDURES IN OBRA89

The Commission was asked by the Senate Finance Committee to provide it with advice on possible measures to reduce projected Medicare outlays for physician services in 1990. The Commission outlined several options that the Congress might use, including reduction in prevailing charges for selected procedures judged by the Commission to be relatively overvalued by Medicare. The Commission recommended that the prevailing charge be reduced by no more than one-third of the amount by which a procedure was estimated to be overvalued.

The reductions for overvalued procedures in the Omnibus Budget Reconciliation Act of 1989 (OBRA89) followed the Commission's recommendations. This appendix explains how procedures were judged overvalued, and the safeguards used to ensure that the reductions in prevailing charges would be smaller than those expected with the full implementation of the Medicare Fee Schedule.

OVERVIEW OF THE METHOD

The Commission judged which procedures were overvalued by comparing each procedure's national average allowed charge to its value in the Commission's estimate of the Medicare Fee Schedule (called the estimated MFS below). These estimates were based on the results from the first phase of the Hsiao study (1988).[1] The Commission staff reviewed both the methodology and the results of the Hsiao study, and concluded that the methods used by Hsiao are basically sound and that upon completion of the second phase of the study and revision and refinement of the first phase, the values for relative work from the study will provide a reliable and valid basis for a Medicare Fee Schedule based on resource costs.[2]

---

[1] The method that would be used to develop a Medicare Fee Schedule based on resource costs over the next several years is described in the Commission's 1989 report to Congress.

[2] The Commission's evaluation of the study, a discussion of the elements that need to be improved, and its recommendations for improvements are presented in Chapters 1-5 and Appendix A in its 1989 report.

Based on this evidence, the Commission concluded that limited reductions for selected overvalued procedures could be made by reference to the estimated MFS.[3] The Commission suggested that a procedure be considered overvalued if its average allowed charge were projected to decrease by more than 10 percent under the estimated MFS.

The results for individual procedures from the first phase of the Hsiao study are subject to some uncertainty. Consequently, the Commission recommended that the prevailing charge for each overvalued procedure be decreased by at most one-third of the difference between the prevailing charge and the fee schedule estimate. In addition, this adjustment would be made only for procedures for which the Commission had a reasonable degree of confidence in both the estimates of fees based on resource costs and the allowed charge data. For these procedures, changes of the magnitude the Commission recommended involve little risk that a prevailing charge would be decreased by more than it will under the fully-developed Medicare Fee Schedule.

Table B-1 lists the procedures the Commission has identified as overvalued. The following describes the development of the estimated MFS and the criteria used to identify procedures as overvalued.

THE 1989 ESTIMATE OF THE MEDICARE FEE SCHEDULE

The methodology used to develop the 1989 estimates of fees based on resource costs was essentially the same as that described in chapter 9 and appendix G of the Commission's 1989 Report to Congress.[4] The value for each service or procedure code was the sum of a component reflecting physician work based on the Hsiao study and a practice cost component developed by the Commission.

The physician work components of the estimates were based on the most recent values for relative work from Hsiao and colleagues as published in reports to the Health Care Financing Administration in September and December of 1988 (Hsiao et al., 1988). Hsiao reported values for several hundred surveyed procedures and extrapolated values for additional procedures in "families" related to each surveyed code. These extrapolations were made using data on physicians' submitted charges.

---

[3] The estimates that would be used to adjust prevailing charges of overvalued procedures in 1990 are different in several ways from the future Medicare Fee Schedule. In particular, the current estimates (1) are based on the results of phase one of the Hsiao study rather than the complete study, (2) include some but not all physician services, (3) do not incorporate the changes in coding for evaluation and management services or surgical global services that are being developed, and (4) include practice cost components that are based in part on historic practice costs by specialty.

[4] In that report, a simulated fee schedule based on resource costs was called a Medicare Fee Schedule. The values presented in the report were the Commission's best estimates at that time of the fee levels that would obtain under a fully-developed Medicare Fee Schedule based on resource costs. The estimates presented here are refinements of those presented in the 1989 report.

The Commission estimated a practice cost component for each procedure using allowed charges for physician services and data on physician practice costs as described in chapter 5 and appendix D of the 1989 Report.[5] This method assumed that practice costs under a fee schedule would be similar to their current levels and, in particular, that practice costs would not be expected to decrease if the Medicare payment for the procedure were reduced.[6]

The estimated MFS used in this analysis does not incorporate the coding changes for evaluation and management services and surgical global services that the Commission is developing with the cooperation of the medical community and Medicare carriers (chapter 3). The work to define these coding changes is still in progress. When this work is completed, the changes will be incorporated into the Medicare Fee Schedule along with more accurate relative values for these services. However, the estimates used in this analysis were adjusted to account for differences between the surgical global service assumed by Hsiao in estimating physician work and those used now by carriers and physicians. Because most carriers and physicians define a global service to include more services than Hsiao did, the physician work values from the Hsiao study for surgical services were increased to make them comparable to current carrier policies.

The estimates used here and the average allowed charges to which they are compared have been adjusted to take into account the effects of previous reductions for overvalued procedures specified in OBRA86 and OBRA87. Consequently, the projected decreases in prevailing charges are smaller for these procedures than had they not been subject to reductions in 1987 and 1988.

The Commission used 1987 charge data provided by the staff of the Health Care Financing Administration to calculate relative work values for a small number of procedures for which there were coding changes for 1987. This not only increased the accuracy of the estimates, but allowed a more accurate comparison of estimated fee schedule values to Medicare allowed charges.

---

[5] To improve the accuracy of the estimates, Commission staff used the charge data from the 1986 BMAD Procedures File, a 100 percent sample, rather than the 5 percent sample from the BMAD Provider File used for the Medicare Fee Schedule simulations published in the 1989 Report. This increased the accuracy of the estimates for individual services, particularly for less-frequently used codes.

[6] The method initially used by Hsiao and colleagues to simulate the effects of a fee schedule based on their results assumed that practice costs would decrease for procedures with reduced payment. This resulted in much larger simulated changes in fees than the Commission has projected (see the estimates published by Hsiao et al. in the *New England Journal of Medicine 319:835-841, 1988* and the October 28, 1988 issue of the *Journal of the American Medical Association*).

SELECTING OVERVALUED PROCEDURES

The Commission initially developed estimated fees based on resource costs for more than 1000 services and procedures for which Hsiao reported relative work values in December of 1988.[7] Some of these were eliminated from consideration as possible overvalued procedures because Commission staff did not have enough confidence in the accuracy of their estimates of resource-based fees, or in the charge data to which the estimates would be compared. In deciding which services to include, the advice of physician organizations was considered, and the Commission received technical assistance from staff of the Health Care Financing Administration.

The Commission prepared a draft list of overvalued services and procedures and circulated it to physician organizations and others for comment in July 1989. The information provided in their comments was carefully considered and evaluated. The final list of services and procedures reflects further Commission staff analyses prompted by this information and on more recent data on physician charges to Medicare.

A number of services and procedures were excluded from consideration as overvalued procedures because the values of relative work from the Hsiao study are likely to change substantially. Hsiao will restudy several of the specialties from phase one, and will recalculate relative values for all services from phase one to reflect refined estimates of pre- and post-service work. For most specialties and services, these changes are not likely to be large. However, dermatology and psychiatry will be completely resurveyed by Hsiao, and the estimates of relative work for these services--and the estimates that would be based on them--may change substantially.[8] The services of these two specialties have been excluded from consideration as overvalued procedures. Pathology services were eliminated not only because the physician work values may change substantially during the planned restudy by Hsiao and colleagues, but because available charge data from 1986 and 1987 may not reflect current practice.[9]

---

[7] The procedures for which Hsiao reported values for relative physician work account for well over half of the total claims submitted to Medicare for physician services. However, Hsiao did not provide physician work values for services and procedures that have not yet been studied, such as many neurosurgical and cardiology procedures. In addition, Hsiao did not have adequate submitted charge data to provide extrapolated values for some services. The Commission used more recent data on submitted charges provided by the Health Care Financing Administration to extrapolate relative work values for a number of these procedures. The additional extrapolated values are for less-frequently billed procedures that are closely related to Hsiao's surveyed procedures. For example, we extrapolated a value for relative work for 33516 (coronary artery bypass, six or more grafts) from the value for 33512 (coronary artery bypass, three grafts), a surveyed procedure.

[8] Several other specialties are also being restudied to some extent, but the expected changes are less extensive.

[9] Problems with recent data on charges for these services prevent making accurate estimates of either the work component or the practice costs for these services. Data on current charges for pathology procedures were affected by major changes in billing practices and restrictions on submitted and allowed charges for these services following the Tax Equity and Fiscal Responsibility Act (TEFRA).

The Commission also excluded groups of procedures for which the uncertainty in Hsiao's estimated values was judged to be substantially greater than for others, or for which the current data on physicians' charges to Medicare may be inaccurate. Submitted charges are required to estimate physician work and allowed charges are required to estimate practice cost components. For instance, recent coding changes for some of the colonoscopy procedures (codes 45330-45372) make Hsiao's assignment of relative work unreliable for these codes, and make it difficult to use recent data on physician charges to estimate practice costs.[10] A number of urology services (codes 51725-51797) were eliminated because current charge data reflect too few claims to yield reliable values for physicians' submitted and allowed charges. Codes for several heart catheterization and certain disk surgery procedures were also eliminated.

Finally, the value of relative work for coronary artery bypass procedures (CABSs) was increased by about 12 percent to account for the increased use of the internal mammary artery in these procedures and the substantial fraction of CABSs that are reoperations.[11]

Values for individual services of radiologists were not included in this analysis. These services are now paid through a separate fee schedule, and the Commission recommended that adjustments in the prevailing charges for radiology services be made by adjusting the conversion factors used in the radiology fee schedule.

Threshold Criteria

The Commission advised the Senate Finance Committee that prevailing charges of overvalued procedures could be decreased for those services for which there was sufficient confidence in the Medicare Fee Schedule estimates. However, the Commission recommended that several additional safeguards be included to further reduce the chance that any prevailing charge would be reduced by more than it would change when the Medicare Fee Schedule is implemented. In particular:

---

[10] There have been no coding changes affecting the colonoscopy codes 45378-45385, and these were included.

[11] The CPT codes for coronary artery bypass operations are used for both primary and reoperations, and for both those that do and do not use the internal mammary artery (IMA). The value for relative work of a coronary artery bypass operation from the Hsiao study was based only on the primary operation and did not specify the use of the IMA. The value of relative work was adjusted to account for the several kinds of operations billed under these codes. Objective data showed that the time for a coronary artery bypass operation is increased by about 10 percent when the internal mammary artery is used as a conduit, and the results of the Hsiao study showed that a reoperation is 43 percent more work than the primary operation. From available data and an informal survey of practice at a sample of institutions, it was estimated that the IMA is used in about 75 percent of coronary artery bypass operations, and that about 10 percent are reoperations. Consequently, the value for physician work was increased by 7.5 percent to account for increased use of the IMA (10 percent higher work in 75 percent of cases) and by 4.3 percent (43 percent higher work in 10 percent of cases) to account for reoperations. The two factors together imply an increase in the physician work component for coronary artery bypass procedures (33510-33516) of 11.8 percent. The practice cost component was not changed.

- A procedure would be considered overvalued only if the decrease projected under a Medicare Fee Schedule were at least 10 percent.

- Since there is greater confidence in Hsiao's values for surveyed procedures than for his extrapolated values, each surveyed procedure was first examined to determine whether it was overvalued. The same criteria were then applied to each extrapolated procedure that was closely related to an overvalued surveyed procedure. Therefore, extrapolated procedures would be included as overvalued only if they met the same threshold criterion of 10 percent and were closely related to an overvalued surveyed procedure.[12]

Limiting Reductions to One-Third of the Estimated Difference

The Commission recommended that reductions in prevailing charges for overvalued procedures be limited to one-third of the difference between current charges and the estimated MFS values. For example, if a procedure were projected to decrease by 24 percent under the MFS, it would be reduced by one-third of that difference, or 8 percent. The Commission also recommended that no prevailing charge be decreased by more than 15 percent, regardless of the difference between the allowed charge and the estimated resource-based fee. Like the precautions taken in the analysis described above, these limits on reductions in prevailing charges acknowledge that the amount of the change implied by current estimates is subject to some uncertainty, and further reduce the chance that a prevailing charge would be reduced by too great an amount.

The Commission also recommended that reductions in prevailing charges be adjusted according to geographic differences between local physician charges and the estimated resource-based fees. For each overvalued procedure, the prevailing charge in each locality would be reduced by at most one-third of the difference between the prevailing charge and the projected resource-based fee adjusted by the geographic practice cost index in that locality.

REFERENCE

Hsiao, W.C., P. Braun, E.R. Becker et al., *A National Study of Resource-Based Relative Value Scales for Physician Services: Final Report,* Harvard School of Public Health, September, 1988.

---

[12] This means that an individual extrapolated procedure that is projected to decrease by more than 10 percent would not be considered overvalued unless it is closely related to an overvalued surveyed procedure.

Table B-1. Overvalued Procedures

Code	Description	Surveyed	Allowed Charge (1988 Dollars)	Estimated Fee (1988 Dollars)	Percent Difference	One-third of Difference
19162	Remove Breast Tissue: Nodes	No	938	839	-10	- 3
19200	Extensive Breast Surgery	No	1112	936	-16	- 5
19220	Extensive Breast Surgery	No	1130	997	-12	- 4
19240	Extensive Breast Surgery	Yes	1047	912	-13	- 4
27125	Revise Hip with Prosthesis	No	1563	1296	-17	- 6
27126	Revise Hip with Prosthesis	No	1598	1352	-15	- 5
27127	Revise Hip with Prosthesis	No	1898	1570	-17	- 6
27130	Total Hip Joint Replacement	Yes	2399	1982	-17	- 6
27132	Total Hip Joint Replacement	No	2648	2344	-11	- 4
27134	Revise Hip Joint Replacement	No	2898	2347	-19	- 6
27137	Revise Hip Joint Component	No	2166	1814	-16	- 5
27138	Revise Hip Joint Component	No	2103	1799	-14	- 5
28290	Correction of Bunion	No	357	315	-12	- 4
28292	Correction of Bunion	Yes	558	446	-20	- 7
28293	Correction of Bunion	No	575	502	-13	- 4
28294	Correction of Bunion	No	565	495	-12	- 4
28296	Correction of Bunion	No	633	513	-19	- 6
28297	Correction of Bunion	No	621	519	-16	- 5
28298	Correction of Bunion	No	456	395	-13	- 4
28299	Correction of Bunion	No	757	637	-16	- 5
29870	Knee Arthroscopy	No	294	218	-26	- 9
29871	Knee Arthroscopy/Drainage	No	529	390	-26	- 9
29872	Knee Arthroscopy/Drainage	No	588	423	-28	- 9
29874	Knee Arthroscopy/Surgery	No	713	484	-32	-11
29875	Knee Arthroscopy/Surgery	No	818	610	-25	- 8
29876	Knee Arthroscopy/Surgery	No	919	629	-32	-10
29877	Knee Arthroscopy/Surgery	No	1068	722	-32	-11
29879	Knee Arthroscopy/Surgery	No	1075	719	-33	-11
29880	Knee Arthroscopy/Surgery	No	1478	929	-37	-12
29881	Knee Arthroscopy/Surgery	Yes	969	700	-28	- 9
29882	Knee Arthroscopy/Surgery	No	980	680	-31	-10
29884	Knee Arthroscopy/Surgery	No	631	457	-28	-9
29886	Knee Arthroscopy/Surgery	No	867	589	-32	-11
29887	Knee Arthroscopy/Surgery	No	736	508	-31	-10
29889	Knee Arthroscopy/Surgery	No	1381	1077	-22	-7
31000	Irrigation Maxillary Sinus	No	39	31	-19	-6
31001	Irrigation Maxillary Sinuses	No	57	46	-20	-6
31002	Irrigation Sphenoid Sinus	No	34	29	-16	-5
31020	Exploration Maxillary Sinus	No	194	159	-18	-6
31021	Exploration of Sinuses	No	317	244	-23	-8
31030	Exploration Maxillary Sinus	No	724	540	-25	-8
31031	Exploration of Sinuses	No	1022	761	-26	-8
31032	Explore Sinus, Remove Polyps	Yes	717	557	-22	-7
31033	Enter Sinuses, Remove Polyps	No	920	705	-23	-8

Table B-1. - Continued

Code	Description	Surveyed	Allowed Charge	Estimated Fee	Percent Difference	One-third Of Difference
			(1988 Dollars)			
31360	Removal of Larynx	No	1577	1393	-12	-4
31365	Removal of Larynx	Yes	2247	1925	-14	-5
31367	Partial Removal of Larynx	No	1681	1443	-14	-5
31368	Partial Removal of Larynx	No	209	1873	-11	-3
32440	Removal of Lung	No	1862	1657	-11	-4
32480	Partial Removal of Lung	Yes	1731	1520	-12	-4
32500	Partial Removal of Lung	No	1361	1201	-12	-4
32520	Remove Lung and Revise Chest	No	1870	1655	-12	-4
32522	Remove Lung and Revise Chest	No	1898	1700	-10	-3
32525	Remove Lung and Revise Chest	No	2325	2060	-11	-4
33206	Insertion of Heart Pacemaker	No	1035	676	-35	-11
33207	Insertion of Heart Pacemaker	Yes	1033	660	-36	-12
33208	Insertion of Heart Pacemaker	No	1315	857	-35	-11
33210	Insertion of Heart Electrode	No	339	206	-39	-13
33212	Insertion of Pulse Generator	No	578	386	-33	-11
33216	Revision Implanted Electrode	No	518	324	-38	-13
33218	Repair Pacemaker Electrodes	No	429	268	-38	-13
33219	Repair of Pacemaker	No	599	375	-37	-12
33232	Removal of Pacemaker	No	347	232	-33	-11
33405	Replacement of Aortic Valve	Yes	3273	2513	-23	-8
33510	Coronary Artery Bypass	No	2940	2198	-25	-8
33511	Coronary Arteries Bypass	No	3506	2624	-25	-8
33512	Coronary Arteries Bypass	Yes	3877	2874	-26	-9
33513	Coronary Arteries Bypass	No	4109	3046	-26	-9
33514	Coronary Arteries Bypass	No	4235	3152	-26	-9
33516	Coronary Arteries Bypass	No	4735	3315	-30	-10
35001	Repair Defect of Artery	No	1488	1306	-12	-4
35011	Repair Defect of Artery	No	1344	1172	-13	-4
35013	Repair Artery Rupture, Arm	No	1565	1409	-10	-3
35021	Repair Defect of Artery	No	1685	1491	-11	-4
35045	Repair Defect of Arm Artery	No	1211	1031	-15	-5
35081	Repair Defect of Artery	Yes	2339	1919	-18	-6
35082	Repair Artery Rupture, Aorta	No	2664	2162	-19	-6
35091	Repair Defect of Artery	No	2540	2095	-18	-6
35092	Repair Artery Rupture, Belly	No	2722	2345	-14	-5
35102	Repair Defect of Artery	No	2427	2033	-16	-5
35103	Repair Artery Rupture, Groin	No	2746	2241	-18	-6
35112	Repair Artery Rupture, Spleen	No	1787	1435	-20	-7
35121	Repair Defect of Artery	No	1649	1431	-13	-4
35122	Repair Artery Rupture, Belly	No	2038	1615	-21	-7
35131	Repair Defect of Artery	No	1362	1218	-11	-3
35132	Repair Artery Rupture, Groin	No	2018	1720	-15	-5

Table B-1 . - Continued

Code	Description	Surveyed	Allowed Charge	Estimated Fee	Percent Difference	One-third Of Difference
			(1988 Dollars)			
35141	Repair Defect of Artery	No	1579	1319	-16	-5
35142	Repair Artery Rupture, Thigh	No	1632	1424	-13	-4
35151	Repair Defect of Artery	No	1512	1315	-13	-4
35152	Repair Artery Rupture, Knee	No	1764	1554	-12	-4
35161	Repair Defect of Artery	No	1208	1027	-15	-5
35301	Rechanneling of Artery	Yes	1673	1240	-26	-9
35311	Rechanneling of Artery	No	2123	1581	-26	-8
35321	Rechanneling of Artery	No	1221	969	-21	-7
35331	Rechanneling of Artery	No	1254	993	-21	-7
35341	Rechanneling of Artery	No	1421	1134	-20	-7
35351	Rechanneling of Artery	No	1448	1129	-22	-7
35355	Rechanneling of Artery	No	1628	1261	-23	-7
35361	Rechanneling of Artery	No	1900	1438	-24	-8
35363	Rechanneling of Artery	No	2196	1671	-24	-8
35371	Rechanneling of Artery	No	1446	1069	-26	-9
35372	Rechanneling of Artery	No	1446	1069	-26	-9
35381	Rechanneling of Artery	No	1466	1140	-22	-7
39400	Visualization of Mediastinum	Yes	504	451	-11	-4
44120	Removal of Small Intestine	No	1096	964	-12	-4
44130	Bowel to Bowel Fusion	No	993	883	-11	-4
44140	Partial Removal of Colon	No	1272	1096	-14	-5
44141	Partial Removal of Colon	No	1295	1127	-13	-4
44143	Partial Removal of Colon	No	1403	1253	-11	-4
44144	Partial Removal of Colon	No	1336	1180	-12	-4
44145	Partial Removal of Colon	Yes	1485	1291	-13	-4
44146	Partial Removal of Colon	No	1693	1449	-14	-5
44147	Partial Removal of Colon	No	1550	1388	-10	-3
44150	Removal of Colon	No	1656	1408	-15	-5
44152	Removal of Colon/Ileostomy	No	1752	1487	-15	-5
44153	Removal of Colon/Ileostomy	No	1849	1526	-17	-6
44155	Removal of Colon	No	1787	1584	-11	-4
44156	Removal of Colon/Ileostomy	No	1791	1433	-20	-7
44160	Removal of Colon	No	1399	1170	-16	-5
44950	Appendectomy	Yes	556	445	-20	-7
44960	Appendectomy	No	645	527	-18	-6
45378	Diagnostic Colonoscopy	No	423	306	-28	-9
45379	Colonoscopy	No	434	335	-23	-8
45380	Colonoscopy and Biopsy	No	476	342	-28	-9
45382	Colonoscopy, Control Bleeding	No	553	421	-24	-8
45383	Colonoscopy, Lesion Removal	No	490	370	-25	-8
45385	Colonoscopy, Lesion Removal	Yes	649	460	-29	-10
47600	Removal of Gallbladder	Yes	890	710	-20	-7
47605	Removal of Gallbladder	No	961	760	-21	-7
47610	Removal of Gallbladder	No	1088	882	-19	-6
47620	Removal of Gallbladder	No	1277	1030	-19	-6

Table B-1 . - Continued

Code	Description	Surveyed	Allowed Charge	Estimated Fee	Percent Difference	One-third Of Difference
			(1988 Dollars)			
49500	Repair Inguinal Hernia	No	524	411	-22	-7
49505	Repair Inguinal Hernia	Yes	576	412	-29	-9
49510	Repair Hernia, Remove Testis	No	626	443	-29	-10
49515	Repair Inguinal Hernia	No	603	463	-23	-8
49520	Rerepair Inguinal Hernia	No	669	478	-29	-9
49525	Repair Inguinal Hernia	No	691	505	-27	-9
49530	Repair Incarcerated Hernia	No	639	463	-28	-9
49535	Repair Strangulated Hernia	No	564	445	-21	-7
49540	Repair Lumbar Hernia	No	608	470	-23	-7
49550	Repair Femoral Hernia	No	590	425	-28	-9
49552	Repair Femoral Hernia	No	560	445	-20	-7
49555	Remove Femoral Hernia	598	463	-23	-7	No
49560	Repair Abdominal Hernia	No	705	500	-29	-10
49565	Rerepair Abdominal Hernia	No	782	556	-29	-10
49570	Repair Epigastric Hernia	No	396	309	-22	-7
49575	Repair Epigastric Hernia	No	523	416	-20	-7
49580	Repair Umbilical Hernia	No	428	336	-22	-7
49581	Repair Umbilical Hernia	No	547	386	-29	-10
49590	Repair Abdominal Hernia	No	571	432	-24	-8
50590	Fragmenting of Kidney Stone	Yes	978	820	-16	-5
52500	Revision of Bladder Neck	No	779	657	-16	-5
52601	Prostatectomy (TUR)	Yes	1119	929	-17	-6
52612	Prostatectomy, First Stage	No	961	855	-11	-4
52614	Prostatectomy, Second Stage	No	584	517	-12	-4
52630	Remove Prostate Regrowth	No	1022	854	-16	-5
52640	Relieve Bladder Constructure	No	584	479	-18	-6
52650	Prostatectomy Contracture	No	885	666	-25	-8
58102	Curettage of Uterus Lining	No	78	67	-14	-5
58120	Dilation and Curettage	Yes	262	227	-13	-4
58150	Total Hysterectomy	Yes	1024	813	-21	-7
58152	Total Hysterectomy	No	1182	930	-21	-7
58180	Partial Hysterectomy	No	854	752	-12	-4
58200	Extensive Hysterectomy	No	1231	989	-20	-6
58210	Extensive Hysterectomy	No	1631	1347	-17	-6
58260	Vaginal Hysterectomy	No	1014	786	-23	-7
58265	Hysterectomy & Vagina Repair	Yes	1067	839	-21	-7
58267	Hysterectomy & Vagina Repair	No	1157	877	-24	-8
58270	Hysterectomy & Vagina Repair	No	1122	891	-21	-7
58275	Hysterectomy, Revise Vagina	No	1080	932	-14	-5
58280	Hysterectomy, Revise Vagina	No	1106	912	-18	-6
58285	Extensive Hysterectomy	No	1326	1059	-20	-7

Table B-1. - Continued

Code	Description	Surveyed	Allowed Charge	Estimated Fee	Percent Difference	One-third Of Difference
			(1988 Dollars)			
63001	Removal of Spinal Lamina	No	1718	1461	-15	-5
63003	Removal of Spinal Lamina	No	1574	1410	-10	-3
63005	Removal of Spinal Lamina	No	1644	1388	-16	-5
63010	Removal of Spinal Lamina	No	1792	1436	-20	-7
63015	Removal of Spinal Lamina	No	2115	1749	-17	-6
63016	Removal of Spinal Lamina	No	2109	1779	-16	-5
63017	Removal of Spinal Lamina	Yes	1979	1685	-15	-5
63030	Low Back Disk Surgery	Yes	1401	1205	-14	-5
63031	Low Back Disk Surgery	No	1763	1480	-16	-5
63035	Added Spinal Disk Surgery	No	475	428	-10	-3
64716	Revision of Cranial Nerve	No	642	450	-30	-10
64718	Revise Ulnar Nerve at Elbow	No	589	432	-27	-9
64719	Revise Ulnar Nerve at Wrist	No	349	254	-27	-9
64721	Revise Median Nerve at Wrist	Yes	473	341	-28	-9
65850	Incision of Eye	Yes	1122	852	-24	-8
65855	Laser Surgery of Eye	No	847	641	-24	-8
66840	Removal of Lens Material	No	757	642	-15	-5
66850	Removal of Lens Material	No	1239	1098	-11	-4
66920	Extraction of Lens	No	1060	869	-18	-6
66930	Extraction of Lens	No	865	743	-14	-5
66940	Extraction of Lens	No	1054	931	-12	-4
66983	Remove Cataract, Insert Lens	No	1564	1268	-19	-6
66984	Remove Cataract, Insert Lens	Yes	1524	1227	-19	-6
66985	Insert Lens Prosthesis	Yes	1014	847	-16	-5
67107	Repair Detached Retina	Yes	1704	1420	-17	-6
67108	Repair Detached Retina	No	2615	2172	-17	-6
67208	Treatment of Retinal Lesion	No	829	651	-21	-7
67210	Treatment of Retinal Lesion	No	787	606	-23	-8
67218	Treatment of Retinal Lesion	No	934	789	-16	-5
67227	Treatment of Retinal Lesion	No	837	670	-20	-7
67228	Treatment of Retinal Lesion	Yes	774	605	-22	-7
69631	Repair Eardrum Structures	No	1263	1085	-14	-5
69632	Rebuild Eardrum Structures	No	1363	1221	-10	-3
69633	Rebuild Eardrum Structures	No	1336	1198	-10	-3
69635	Repair Eardrum Structures	No	1414	1255	-11	-4
69636	Rebuild Eardrum Structures	No	1477	1328	-10	-3
69637	Rebuild Eardrum Structures	No	1748	1501	-14	-5
69641	Revise Middle Ear & Mastoid	Yes	1549	1345	-13	-4
69642	Revise Middle Ear & Mastoid	No	1560	1394	-11	-4
69644	Revise Middle Ear & Mastoid	No	1842	1651	-10	-3
69646	Revise Middle Ear & Mastoid	No	1718	1546	-10	-3

Table B-1. - Continued

Code	Description	Surveyed	Allowed Charge (1988 Dollars)	Estimated Fee (1988 Dollars)	Percent Difference	One-third Of Difference
76700	Echo Exam of Abdomen	Yes	131	103	-21	-7
76705	Echo Exam of Abdomen	No	101	69	-32	-11
76770	Echo Exam of Abdomen	No	120	93	-23	-7
76775	Echo Exam Abdomen Back Wall	No	98	72	-27	-9
92226	Extended Ophthalmoscopy	No	32	28	-12	-4
92230	Ophthalmoscopy/Angioscopy	No	54	49	-10	-3
92235	Ophthalmoscopy/Angiography	Yes	132	117	-11	-4
92265	Eye Muscle Evaluation	No	28	19	-32	-11
92270	Electro-Oculography	No	48	32	-33	-11
92275	Electroretinography	No	94	61	-35	-12
92280	Special Eye Evaluation	No	72	47	-35	-12
92283	Color Vision Examination	No	27	19	-31	-10
92284	Dark Adaptation Eye Exam	No	40	26	-35	-12
92285	Eye Photography	No	24	16	-34	-11
92286	Internal Eye Photography	Yes	103	69	-33	-11
92287	Internal Eye Photography	No	99	62	-38	-12
93000	Electrocardiogram, Complete	Yes	33	24	-27	-9
93005	Electrocardiogram, Tracing	No	13	10	-24	-8
93010	Electrocardiogram Report	No	13	9	-27	-9
93012	Transmission of ECG	No	33	24	-27	-9
93014	Report on Transmitted ECG	No	17	13	-22	-7
93015	Cardiovascular Stress Test	No	131	96	-27	-9
93017	Cardiovascular Stress Test	No	44	34	-23	-8
93018	Cardiovascular Stress Test	No	67	48	-29	-9
93024	Cardiac Drug Stress Test	No	104	84	-19	-6
93040	Rhythm ECG with Report	No	15	12	-21	-7
93041	Rhythm ECG, Tracing	No	10	8	-18	-6
93042	Rhythm ECG, Report	No	9	8	-12	-4
93045	Special ECG	No	24	18	-26	-9
93501	Right Heart Catheterization	No	377	258	-31	-10
93503	Right Heart Catheterization	Yes	298	205	-31	-10
93505	Biopsy of Heart Lining	No	307	228	-26	-8

Number of Codes : 245 *Number of Groups : 36* *Number of Surveyed Codes : 37*

Source: PPRC, prepared for the Senate Finance Committee, September 20, 1989.

Notes:

Col. 1	5-digit code from CPT, the Current Procedural Terminology of the American Medical Association
Col. 2	Short description of the procedure from CPT
Col. 3	"Yes" indicates that Hsiao surveyed the code
Col. 4	The 1988 national average allowed charge
Col. 5	The Commission's current estimate of the resource-based fee amount
Col. 6	The percent difference between the average allowed charge and the current estimate of the resource-based fee
Col. 7	One-third of the percent difference between the average allowed charge and the estimate of the resource-based fee. This represents a national average reduction, but the actual reduction would vary from locality to locality and would not exceed 15 percent in any locality for any procedure.

APPENDIX C

SUMMARY OF THE COMMISSION'S HEARING ON RURAL PRACTICE COSTS

The Commission has expressed special concerns about access to physician care for Medicare beneficiaries in rural areas since its first report. In its 1989 report, the Commission noted the uncertainty that has been raised about whether the geographic practice cost indexes available for use in the Medicare Fee Schedule adequately reflect practice costs in rural areas. As the Commission seeks to estimate the costs of practice for the Medicare Fee Schedule, it is making a particular effort to capture any differences in monetary and nonmonetary costs between rural and urban physician practices. It has been examining data and other information to identify where such cost differences exist and what practice characteristics or circumstances differentially affect urban and rural practice expenses.

As part of this effort, the Commission held a hearing on the costs of practicing medicine in rural areas on September 15, 1989, in San Antonio, Texas. The purpose of the hearing was to gather additional information to assist the Commission in objectively quantifying differences in practice costs between rural and urban areas and in estimating practice costs as accurately as possible. The witnesses represented a variety of perspectives on this issue and included a consultant and researcher who work with rural physicians and hospitals to develop and maintain financially viable practices, state medical society representatives, a physician in rural practice, and an executive director of a major multispecialty medical clinic that operates satellite clinics in rural areas. The witnesses were asked to address differences among rural and urban practices in the prices physicians face in operating their practices, in patient volume, and in patient mix. They were also asked about costs that are typically underestimated by physicians establishing practices in rural areas and reasons why physicians may not choose to, or be able to, maintain a practice in a rural area.

Although there was variation in the amount of data upon which the testimonies were based, several common themes emerged from the hearing. For instance, rural practices are likely to incur greater costs for skilled personnel, such as nurses. In purchasing equipment and maintenance contracts, rural physicians are at times able to negotiate and obtain national market prices. Many rural physicians, however, face higher unit costs for this equipment as a result of underutilization. Medical supplies tend to be more expensive because most rural physicians do not benefit from volume discounts. The cost of professional liability insurance for rural physicians, on average, is comparable or even higher, perhaps due to the large number that provide obstetrical care. One final expense, office space, varies a great deal between the two comparison groups, depending on whether the physician opts to build, renovate, or rent.

Although differences between the practice costs of urban and rural physicians appear to exist, it is difficult to generalize due to variation among rural practices. For example, a doctor just beginning to practice in a rural setting will typically have higher costs than a doctor already firmly established.

Other characteristics more clearly distinguish rural practices from their urban counterparts. Rural physicians treat a greater percentage of Medicare patients than do urban physicians, and they also have a greater number of patient contacts overall. Due to such heavy workloads, burnout is a relatively frequent occurrence among rural practitioners. Another concern is that the low incomes of patient populations in many rural areas are not adequate to support a viable practice.

The summary of the hearing that follows expands on many of these issues. It is arranged by the order in which the testimonies were given.

JEFFREY C. BAUER, PH.D., THE BAUER GROUP, HILLROSE, COLORADO

A valid determination of the differences between practice costs of urban and rural physicians is often difficult to make. Few reliable data exist for comparison; and within rural areas alone, there appears to be a large variance in costs, depending on the scope of one's practice and, most probably, one's age (with costs lower for older doctors). Furthermore, many costs are borne either directly or indirectly by rural hospitals. Urban hospitals also play a role in rural communities since there is an increasing tendency for rural doctors to refer patients to more sophisticated urban hospitals.

Equipment

Rather than refer patients to urban medical centers for diagnostic tests and procedures, many rural physicians choose to compete with these medical centers. Such competition forces many doctors to acquire new capital equipment and to update it frequently. Low patient-usage of the equipment, however, places doctors in remote or low-density areas at a disadvantage in their ability to recover the costs of capital equipment. Equipment costs in these cases can be a significant burden.

Physicians contemplating practicing in a rural area may underestimate equipment costs. When making their decision, they often are not aware of the deficiencies of rural hospitals and fail to account for the equipment they will have to purchase themselves. Equipment maintenance costs, particularly for X-ray machines, are also underestimated by physicians.

The Practice Style of New Doctors Versus Established Doctors

Rural physicians reporting lower equipment costs are often those with established practices using less diagnostic equipment overall and relying on older models. More recent medical school graduates demand more sophisticated equipment since they have been trained in the use of the newest technology. Because rural areas often lack state-of-the-art equipment, they are frequently less attractive to physicians. For those physicians who do choose to practice in a rural area, not only are start-up costs high--since they often must purchase their own equipment--but they also may have trouble recouping outlays for equipment due to underutilization.

Model of an Efficient Practice

It may be that certain unnecessary costs are incurred in rural practices because medical services are being provided that could be more efficiently provided in an urban setting. For those services delivered within the rural locality, the greatest efficiencies seem to come from a hospital-based group practice whose physicians use the local hospital's equipment. Within the group practice, a three-provider minimum is recommended for purposes of managing situations common in a rural practice, including professional isolation, burnout, and the difficulty in finding a replacement for vacation purposes. These three providers need not all be physicians. Nurse practitioners and physician assistants (PAs) are desirable substitutes.

Physician Migration

Nurse practitioners and PAs are often needed in rural areas due to difficulties in recruiting physicians to these areas and retaining them once they are there. Burnout and clashes between the practice styles of "old-timers" and newer doctors contribute to physician migration. Income factors also play a role. A sagging local economy can cause physicians' revenues to fall, making it difficult to earn an adequate income. Further, the argument that a lower cost of living offsets the lower income that a rural physician earns may not be valid. Although housing is more affordable, the available housing stock may not meet physicians' expectations, necessitating costs for new construction or renovation. Food is more expensive, and transportation costs are substantial since most physicians and their families make frequent trips to urban centers.

Conclusions

For those physicians who choose to practice in rural areas, it appears that, in general, certain costs of maintaining a practice are higher than in urban settings, while others are quite comparable, if not less. There is a wide variance in costs across rural practices, and this is particularly evident in the differences between young doctors and well-established doctors.

KIMBALL AUSTIN MILLER, M.D., UNIVERSITY OF OKLAHOMA HEALTH SCIENCE CENTER, SECTION OF HEALTH CARE DESIGN

Over the past three years, Dr. Miller and his associates have gathered input cost data from 51 Oklahoma medical practices located in communities with less than 20,000 people. Of the 51 practices, 70 percent are composed of a solo practitioner--typically a general practitioner, family practitioner, or a pediatrician. Thirty-eight of the practices are in communities with less than 5,000 residents and are defined as "rural." The remaining 13 communities, with populations ranging from 5,000 to 20,000, are considered "nonmetropolitan." Although no urban practices have been surveyed, a comparison of the costs of rural practices to those of nonmetropolitan practices provides some relevant information.

Methods

For those practices surveyed, the full range of input costs was taken into account, including building costs (assuming a workplace of 1,400 to 1,700 square feet), office costs, and the costs of equipment maintenance, medical supplies, malpractice insurance, and personnel. For personnel costs, it is assumed there is a receptionist/bookkeeper and a licensed practical nurse (LPN). The position of LPN is defined very broadly, for sometimes a physician uses a spouse or relative as the "nurse" of the practice. Personnel costs in these situations may be lower for rural practices. On the other hand, if a physician hires a registered nurse (RN), personnel costs will be much higher. It is both difficult and expensive to attract RNs to rural areas. It is estimated that an RN must be paid 15 percent more in rural areas than in urban settings.

Furnishings and equipment for a reception room, business office, physician's office, conference room, laboratory, and four exam/treatment rooms (one with only a chair and exam table), were also items used in calculating practice costs.

Results of Comparison

Preliminary analysis of the surveys regarding these input costs in the 51 primary care practices show that both rural and nonmetropolitan providers in Oklahoma average approximately $73,000 in yearly expenses, with only a five percent variance between the two. Even for equipment and maintenance contracts, rural practices appear capable of obtaining the same prices offered to nonmetropolitan practices and urban practices. This is sometimes possible only through affiliation with a larger hospital, through which volume discounts can be obtained.

Effects on Costs

To understand the findings, it is important to note that large variations exist between practitioners in their costs of practice. For example, new physicians will often demand the most up-to-date technology in their offices, greatly increasing their expenses. The volume of services provided is also a factor in how high one's per unit costs are. It is often thought that rural physicians see fewer patients than urban physicians, making it difficult to cover fixed costs. When looking at pediatric practices across Oklahoma, however, it was found that the average number of visits in a day was within 2 percent of what members of the American Academy of Pediatrics reported. This is particularly significant because 75 percent of pediatricians, and thus most Academy members, practice in urban settings.

LOUIS GOODMAN AND TERESA GRIFFIN, TEXAS MEDICAL ASSOCIATION

According to American Medical Association (AMA) data, overall practice expenses are slightly lower for rural physicians, with the exception of office supplies and personnel costs which are higher. Since 1982, however, expenses have increased more rapidly in rural practices than in urban practices. Concurrently, the net incomes of rural providers have increased at a slower pace than those of urban providers. To supplement this AMA data, the Texas Medical Association (TMA) gathered state data, at a more qualitative level, from a small sample of physicians.

TMA Findings

Thirteen rural physicians who moved from an urban area to a rural area within the past ten years were interviewed by phone. Only five of these provided detailed expense and income data, which were used in developing a case comparison involving five urban counterparts. One finding was that rural physicians in Texas see a higher percentage of Medicare patients than urban physicians and, thus, tend to treat older and sicker patients. This is consistent with a 1988 Gallup survey commissioned by the TMA reporting a mix of 39 percent Medicare patients in rural practices compared to 22 percent for physicians practicing in cities with over 500,000 people. According to another Gallup survey, dissatisfaction with the Medicare program, due to the mounting number of regulations and requirements, is most pronounced among rural physicians.

The following is an outline of practice cost findings from the TMA survey of 13 physicians:

- Most rural physicians cited difficulties in recruiting and retaining nurses as well as other technical personnel, such as X-ray technicians. It is especially difficult to recruit a nurse when one's practice is located within 50 to 200 miles of an urban center. Often the staff must be paid wages equal to urban rates. Although wages are equal to or lower than urban wages, rural physicians still report higher payroll expenses. In fact, in three of the case comparisons, payroll expenses were almost twice as high in rural areas as in urban areas. This may be explained in part by the higher staff to physician ratios in these particular rural practices.

- In the case of office space, several physicians reported higher building costs and rent expenses. At the same time, the price of land is much lower. Overall, office costs varied a great deal between localities.
- Professional liability insurance is not necessarily lower for physicians in rural areas. A Texas statewide survey reported average premiums of $8,000 in large urban areas compared to $11,000 in rural areas.
- Medical supplies and equipment purchased by rural doctors appear to be more expensive, perhaps due to the doctors' inability to negotiate discounts with supply firms and higher delivery costs. Several respondents also reported problems in obtaining maintenance contracts for their equipment.
- Continuing education entails greater expenses because of transportation costs and the need to hire a locum tenens in many instances.

To summarize, for four of the five physicians surveyed, total practice costs were higher than those in urban areas, by 15 to 36 percent.

Volume Issues

The AMA and TMA data coincide with regard to volume. Rural physicians have substantially more office visits, and they work more hours than urban physicians. Thus, lab and X-ray equipment appears to be used to capacity.

FRED MERIAN, M.D., RURAL FAMILY PHYSICIAN, YOAKUM, TEXAS

Dr. Merian conducted an informal comparison of his rural practice located in a town of 6,300 people to a practice in San Antonio. Dr. Merian is a partner in a three-provider practice, performing obstetrical procedures, major surgery, and in-office laboratory work. The urban practice is headed by two physicians that perform major surgery but no obstetrical services or in-office laboratory services. The input costs of both practices were compared to determine if there were any noteworthy differences.

Results of the Comparison

The conclusion of the comparison was that there was only a slight overall variance between the two practices: $159,900 in yearly expenses for the rural practice versus $154,000 for the urban. Costs for individual items varied between the two, however. Long distance phone bills, office supplies, and malpractice premiums (due to the obstetrical component of the practice) were higher in the rural practice. The rural physician also had to pay slightly more in total salaries--$96,000 versus $95,000, but he also had two fewer employees than the urban physician. Costs for continuing education may not be much greater for the rural provider because courses are often conducted by correspondence.

For the urban physician, rent and costs associated with X-ray and lab equipment were higher. Rural practices will often not purchase this expensive equipment if it cannot be justified by an adequate patient volume. This is especially the case when the physician has access to a nearby hospital's equipment.

Volume Issues

As found in other studies and surveys, patient volume was greater in the rural practice: 16,400 patient contacts per year compared to 14,100 per year in the urban practice. This results in a lower practice cost per patient encounter in the rural setting. Also, as mentioned before, the rural physician is more likely to treat Medicare (or Medicaid) patients than is the urban physician. Sixty percent of the patient volume in the rural practice is from these two programs, compared to 30 percent in the urban practice.

Low Incomes and Physician Migration

In part because rural physicians rely more heavily on Medicare and Medicaid, their gross incomes are lower than those of urban practitioners. Lower physician incomes are also a result of the lack of insurance coverage among many rural patients and a significant portion of patients, almost 10 percent in this particular doctor's case, not paying their bills. The inability to meet income expectations is a primary reason for physician migration from rural areas.

It is important to note that the Medicare participation rate for rural physicians is only 25 to 35 percent. Because rural physicians perceive Medicare's allowed charges as inadequate, they find it necessary to balance bill. By raising Medicare's payment to rural physicians, more might choose to participate.

FREDERICK J. WENZEL, EXECUTIVE DIRECTOR, MARSHFIELD CLINIC, MARSHFIELD, WISCONSIN

A comparison of nonphysician expenses within the Marshfield Clinic to cost data provided by the Medical Group Management Association (MGMA) presents evidence that rural practice costs are comparable to, or even greater than, those in urban communities.

The Marshfield Clinic is a large multi-specialty group practice located in a non-metropolitan area in central Wisconsin. A staff of 265 physicians practice at the Marshfield site, and an additional 54 physicians practice in 17 regional satellite clinics. Of the 17 satellites, 14 are in communities that range in size from 1,150 to 4,500 residents.

The MGMA provided practice cost information on 65 multispecialty groups with 51 or more full-time-equivalent physicians. It is reasonable to assume that the majority of the groups responding are located in metropolitan areas.

Results of the Comparison

Using the Marshfield Clinic and the MGMA cost data, nonphysician expenses per full time equivalent physician were calculated for both groups. A Marshfield physician incurs $55,412, or 26.6 percent, more in practice costs than an MGMA physician. A portion of this variance can be explained by the fact that the Marshfield Clinic operates a health maintenance organization (HMO), which requires additional support staff and other inputs. The clinic also supports research and educational programs.

Salaries

Personnel costs are 37.6 percent higher for Marshfield physicians. Because the rural labor market is limited in size, recruitment efforts must be extended beyond this local market. Personnel costs, thus, reflect more expensive recruitment efforts as well as the urban wage rates and fringe benefits offered employees. Salaries within the clinic are very competitive with, and even higher than, intrastate metropolitan areas. This in turn leads to less turnover among employees (8.9 percent turnover compared to the national rate of 20.4 percent as reported by the Bureau of National Affairs). High salaries are also a result of less turnover, because the longer employees are with the clinic, the higher their salaries. In comparison to national wage levels, Marshfield's salaries are not quite as competitive.

Equipment

While equipment is generally purchased in a national market, rural advocates assert that maintenance costs are higher in rural areas and that some equipment cannot be fully utilized in rural practices, resulting in higher unit costs. In responding to the high cost of equipment maintenance, the Marshfield Clinic has hired its own technicians. For its more sophisticated equipment, the clinic has negotiated service contracts at urban rates. Several vendors have stationed full-time technicians in Marshfield to manage the workload, so the clinic rarely has to pay for technician travel expenses. At times, however, it becomes necessary for an outside technician to travel to a satellite clinic when Marshfield's own technicians are not available to service the equipment. This entails significant travel costs.

Volume Issues

The clinic's experience with equipment utilization in its rural satellite operations supports the claim that patient volume in small communities is not always sufficient to ensure full utilization. Examples of equipment that are consistently underutilized include general radiographic rooms and processors, general laboratory equipment, basic pulmonary function testing equipment, and flexible sigmoidoscopes. Some argue that equipment should not be purchased if it cannot be efficiently used; however, a clinic may need its own X-ray machine if, for example, the nearest available machine is 50 miles away.

Building Costs

Construction costs tend to be 5 to 15 percent higher in rural areas owing, for example, to distance from materials and lack of qualified skilled labor. Renting office space is often not an option, making construction or renovation more common alternatives. It is particularly difficult to find suitable rental space for group practices, which appear to be growing in number.

Migration

A final issue to consider is that of retaining physicians in rural areas. Factors that appear to affect migration, as determined by Movassaghi and Kindig, are the cost of malpractice insurance (Marshfield self-insures which lowers its professional liability insurance rates), the possibility of hospital closure, family requirements, professional isolation, a heavy workload, and government regulation and paperwork associated with Medicare and Medicaid patients. (The average Medicare component for the Marshfield Clinic and its satellites is 33 percent of the patient mix.) Inadequate income is another major reason physicians choose to abandon their rural practice. Because practice costs are partially a function of income, if reimbursement levels are low, ultimately practice costs must be lowered to maintain physician incomes. Lower practice costs may also reflect the use of less sophisticated facilities and equipment. Underlying factors such as these must be taken into account when interpreting reported practice costs from rural physicians.

APPENDIX D

PROFILING PHYSICIAN PRACTICE: EXPERIENCES IN CANADA AND THE FEDERAL REPUBLIC OF GERMANY[1]

As discussed in Chapter 14, physician profiling could play an important part in monitoring and controlling the utilization of physician services under Volume Performance Standards. The Omnibus Budget Reconciliation Act of 1989 (OBRA89) requires carriers to provide comparative data to physicians whose utilization patterns vary significantly from their peers. Other countries have substantial experience with physician profiling. This overview of the systems that have been developed to control the volume of physician services in Canada and West Germany suggests that physicians can respond positively when they have access to timely and accurate data on the utilization of services.

While each system discussed here is unique, all include (1) computer analyses to identify individuals who provide significantly more services per patient, (2) a process examining the reasons for divergent utilization to identify inappropriate use of services, and (3) the use of financial incentives to influence physicians to reduce inappropriate services.

At the same time, however, neither the Canadian nor West German approaches to monitoring and profiling physician practice has been designed specifically to measure the appropriateness or quality of the care provided by physicians.[2] Rather, these systems assume that the average practice patterns are appropriate and focus on how each physician uses medical services compared with other physicians with comparable practices. Physicians using more services can then be encouraged to move toward the mean. Thus, while there is much to be learned from these systems, there are also opportunities for the Medicare program, other insurers, and the research and the medical communities to improve upon them by explicitly working toward appropriate practice.

---

[1] The discussion of physician profiling activities in West Germany and Canada is based in large part on a working paper, "The Availability of Data to Support an Expenditure Target Policy," prepared for the Commission in the fall of 1989 by Nancy Carlton and Kathryn Langwell of Mathematica Policy Research, Inc.

[2] There is, however, increasing interest in focusing on appropriateness and effectiveness in these systems. In Ontario, for example, a task force on utilization established in 1989 is studying appropriateness issues.

CANADA

Each Canadian province administers its own health plan, and there are significant differences among the plans. As discussed below, however, there are similarities in their approaches to monitoring physician practice patterns.

British Columbia

The Medical Services Plan (MSP) of British Columbia administers the health insurance program in British Columbia. In addition to reimbursing physicians for services rendered to patients, MSP also collects data, monitors the program, and produces statistical physician profiles.

A basic premise of the British Columbia physician reimbursement system is that norms of practice should be based on current patterns of practice within the province. Therefore, the MSP develops physician profiles that compare an individual to his or her peers. For example, general practitioners (GPs) in a solo practice are compared with other GPs in solo practices, rather than to GPs in group practices, because practice patterns differ due to the different level of patient sharing in different types of practices.[3]

Information on the MSP's physician profile includes the number of patients seen and number of referrals by age, sex, and type of procedure. The computer analysis generates lists of physicians who are outliers for each of these categories, that is, physicians with statistical profiles more than two standard deviations from the average of all physicians in a particular area or specialty. The outliers are then reviewed. The MSP does not simply look at the total dollars per physician (some physicians choose to work long hours and see large numbers of patients); instead, it examines the cost and the number of services per patient. The profiles therefore identify physicians who tend to bring patients back sooner or more often than other physicians, or otherwise provide services more intensively than their peers.

Profiling is done annually for all physicians and quarterly for those physicians whose practices have in the past diverged significantly from others in their peer group.[4] The MSP also compares each physician with his or her own history (that is, the amount he or she has billed in previous quarters). When a physician bills for more than he or she has in previous quarters, this is flagged in the system for investigation.

---

[3] For the purposes of profiling, physicians are defined by the types of services they provide, not necessarily their registered specialty. For example, a specialist who provides primarily general practitioner services is assigned to a GP peer group.

Other screens are also built into the monitoring system. For example, limits are set on the expected number of services rendered per day and per week. Physicians exceeding these thresholds are flagged on the quarterly MSP reports. Other computer checks focus on billing practices that could indicate fraud. An example is the cross-checking of physicians' billings to identify billing for both an interpretation and a consultation for the same X-ray. In addition to computer checks, the MSP periodically surveys samples of beneficiaries in order to validate submitted claims.

The Patterns of Practice Review Committee, which is chaired by a member of the British Columbia Medical Association and includes representation from the Ministry of Health, reviews the physicians selected as outliers by the MSP. The Patterns of Practice Review Committee is responsible for determining whether these physicians are billing incorrectly or are overutilizing services. Only about 5 percent to 10 percent of the physicians are reviewed by the committee during any given quarter or year. After investigation, the committee makes recommendations regarding whether to impose penalties, such as requiring the physicians to return monies. The majority of physicians reviewed, however, are not ultimately penalized.[5]

Ontario

The Ontario Health Insurance Plan (OHIP) also uses physician profiling as a tool for controlling the volume of physician services. The Ministry of Health generates statistical analyses six months after the end of each fiscal year, at which time about 99 percent of the year's billing data has been collected.

Physician profiles are generated by specialty and fee schedule code (that is, by type of service or procedure). The Medical Review Committee of the College of Physicians and Surgeons of Ontario (which in addition to its other professional responsibilities is responsible for licensing physicians) investigates reports provided by the OHIP. Individual physicians are not routinely given profiles. They can at any time request a profile comparing their experiences with those of their peers. The profile includes the preceding

---

[4] In the past, these profiles have been sent to the British Columbia Medical Association, but not to the individual physicians for fear that the low utilizers might increase utilization. However, a recent study indicated that providing profile information would not lead to increased utilization. The MSP therefore decided to send the profiles to individual physicians starting in 1990.

[5] There has been some concern about the adequacy of policing physician abuse in British Columbia. Particular criticisms have focused on the mechanisms for detecting overutilization and disciplining (Wilson et al., 1986).

12 months of data. Most physicians do not, however, regularly request such profiles, which cost about $50. Besides investigating physicians who are far above the norm in number of procedures performed, OHIP randomly surveys beneficiaries every month to verify submitted claims (Cahill et al., 1989).

The major limitation of Ontario's data system is the lack of a unique personal identifier for each beneficiary. Currently, the system has only a family contract number and thus can neither distinguish among family members nor track when people get married. In addition, the accuracy and uniformity of the coded diagnostic information varies across physicians.

Quebec

In Quebec, physician profiling facilitates program monitoring and feedback. The primary purpose of the profiling is not, however, to identify utilization problems, but to determine when individual physicians reach payment ceilings. However, profiling is used to identify individuals who may be engaged in program abuse or fraud.

The physician profiles give the average statistics for the physicians' peer group or district, as well as the physician's individual information. GPs are monitored by the amount of revenue generated, while specialists are monitored by the number of procedures performed. There are separate quarterly ceilings for the GPs and specialists; if physicians exceed their ceiling, payments are reduced. Once a GP's gross income reaches the ceiling set for the quarter, subsequent fees paid to that GP during that quarter are automatically reduced by 75 percent. Similarly, specialists receive only 25 percent of the full rate for all procedures performed beyond their respective ceilings.

Physician practice profiles are completed on a yearly and quarterly basis in Quebec. The Regie de L'assurance-Maladie, which administers the Quebec Health Insurance Plan, performs more detailed analyses of physicians suspected of fraud and abuse. Highly suspect cases are referred to the General Practitioners' Revisory Committee or to the Specialists' Revisory Committee.

FEDERAL REPUBLIC OF GERMANY

In West Germany, physicians are paid by privately managed health insurance plans called Sickness Funds that are generally organized by place of employment and operate at the regional level (the state, or *länder*).[6] The Sickness Funds have the dual role of economic monitoring and producing program statistics. Although a national commission determines total health expenditure guidelines, payer and provider organizations on the regional level negotiate the actual expenditure ceilings and develop monitoring and feedback mechanisms.

---

[6] Revenues to support the Sickness Funds come from payroll taxes. The Sickness Funds cover 93 percent of the population, and private insurance companies cover the other 7 percent (Cahill et al., 1989).

While there is some variation across regions and funds, the basic approach to reviewing physician practice patterns is similar throughout the West German health care system. A relative value scale assigns points to all procedures, and these points are used to determine payments by use of a conversion factor. The conversion factor is calculated at the end of each quarter so that expenditures will not exceed the ceilings that have been negotiated for each region. Monitoring and feedback take place at both the sub-budget level (such as medical, dental, laboratory services) and the individual physician level.

German physician practices are analyzed by medical specialty, case mix, and--within these categories--by form of practice, that is, solo practice, small group practice, and so forth. In the process of economic monitoring, physicians with the same training, office staff, equipment, and patient mix are compared on various cost measures. Physician services provided to individual patients are categorized into various types of service and relative value points are compiled in each category. Average costs for all of the physician's patients are then calculated for each category and are compared with the averages for physicians in the same peer group. In addition, the total cost for each patient is compared to the average total cost for patients in the peer group (Cahill et al., 1989). Physicians' reimbursements for particular categories of service are reduced automatically if they are 40 percent over the average in those categories (Kirkmann-Liff, in press; Meyer, 1989).

The Sickness Funds also provide information to individual physicians that compares their patient characteristics with those of other physicians in their specialty. This provides a sort of case-mix adjustment; that is, data that could indicate whether a particular physician's practice includes patients with more or less extensive health care needs. For example, the statistics indicate what percentage of a physician's patients were wage earners, dependents, retirees, and so forth. The system also can break down type of service into several groups. The categories for type of service vary by *länder*. For example, Bavaria uses seven categories -- office, home, general procedure, other type of procedure, laboratory, physical therapy, and radiology, while Nordhein uses 20 different categories for type of service.

The German Sickness Fund Physicians Associations conduct the monitoring of physicians under the direction of a health system monitoring committee. The role of the committee is to monitor and provide feedback and penalties when warranted. The regional-level monitoring commissions that consist of representatives from payer and provider groups within the region determine ceilings by type of service within the region. They also monitor performance, and impose penalties, when necessary (Cahill et al., 1989). Data analyses are done by each *länder* on a quarterly basis. Data timeliness varies among *länder*, but data are generally available within six months of the time of claims submission.

Statistics are generated and analyzed for each *länder* separately. No comparisons are made between the landers or against any national expenditure targets. The yearly statistics across all *länder* are published. However, very little is done with this information.

LESSONS FROM CANADIAN AND WEST GERMAN PHYSICIAN PROFILING SYSTEMS

In both West Germany and Canada, data collection and program monitoring are performed at the regional level (that is, by province or *länder*), with very little operational control on the national level. Program monitoring and data analysis are kept on a subnational level.[7]

Physicians in Canada and West Germany know on a quarterly basis whether they are meeting performance targets. The timely monitoring and feedback systems developed in these countries depend upon an adequate data system that can continuously track volume and expenditures accurately and quickly. The timely submission of claims by providers is one key to the success of these systems. The use of automation and microcomputers greatly increases data timeliness and accuracy.[8]

Because of substantive differences in the health care systems, as well as in professional and political organization in the United States, however, the role of physicians in administering Medicare physician profiling programs and in responding to them will differ in important ways from the Canadian or West German approaches. Basic profiling activities will, under the provisions of the new legislation, be conducted by carriers, although profiling will also continue to be done by Peer Review Organizations. The Medicare program will therefore need to work with physicians and their organizations to design effective methods for profiling and using practice pattern data to educate physicians about appropriate practice patterns (Chapter 14).

The important difference between Canadian and German approaches to profiling and the path the Medicare program has charted presents a unique opportunity. While these other systems assess physician practice primarily by comparing peer practice patterns, the United States has embarked on an ambitious program to determine what constitutes effective and appropriate practice, and then to apply this knowledge. The Medicare program and physicians can work together to develop practice norms that are increasingly based on the developing knowledge of effective medical practice.

---

[7] A discussion of the possible advantages of regional Medicare Volume Performance Standards is presented in Chapter 12.

[8] As discussed in Chapter 12, efforts to improve the timeliness and accuracy of Medicare utilization data, at both the carrier and national levels, are already under way. The direct submission of all Medicare claims by physicians required by OBRA89 should also significantly improve the timeliness of Medicare claims processing and payment. OBRA89 further requires the Secretary of the Department of Health and Human Services to develop a plan, by May 1, 1990, for encouraging more physicians and suppliers to submit claims electronically.

REFERENCES

Cahill, K., J. Reuter, K. Langwell, et al., *Prospective Budgeting for Medicare's Physician Service,* Washington, D.C.: The Congressional Research Service of the Library of Congress, October 31, 1989.

Kirkmann-Liff, B., "Physician Payment and Cost-Containment Strategies in the Federal Republic of Germany: Suggestions for Medicare Reform," *Journal of Health Politics, Policy, and Law* (in press).

Meyer, H., "Spending Caps Pinching Incomes so W. German MDs Crank Up Volume," *American Medical News,* September 8, 1989.

Regie de L'assurance-Maladie, *Bulletin* 18 (2), 1987.

Wilson, P., D. Chappell, and R. Lincoln, "Policing Physician Abuse in BC: An Analysis of Current Policies," *Canadian Public Policy* 12(1): 236-244, 1986.

APPENDIX E

COMMISSION RESPONSIBILITIES MANDATED IN PHYSICIAN PAYMENT REFORM LEGISLATION

The Congress, through the physician payment reform package of the Omnibus Budget Reconciliation Act of 1989 (OBRA89), assigned numerous responsibilities to the Physician Payment Review Commission. The following is a summary of legislative provisions that specify the tasks to be performed by the Commission. The provisions are presented in three categories: (1) mandated studies; (2) review and comment on work performed by the Department of Health and Human Services (HHS); and (3) consultations with the Secretary of HHS.

MANDATED STUDIES

Payment for Practice Expenses (due July 1, 1991)

The Commission shall conduct a study which covers a wide range of practice costs issues. These include the extent to which practice costs and malpractice costs vary by geographic locality and specialty as well as the extent to which available geographic practice cost indices accurately reflect practice costs and malpractice costs in rural areas. The Commission is asked to recommend the appropriate geographic units for measuring and adjusting these costs.

Further, the Commission shall use a consensus panel and other appropriate methods to determine how best to allocate malpractice expenses to particular services. The effect of alternative methods of allocating malpractice expenses on Medicare expenditures by specialty, type of service, and geographic area shall also be examined.

Finally, the Commission shall look at the special circumstances of rural independent laboratories in determining the geographic practice cost index.

Geographic Payment Areas (due July 1, 1991)

The Commission shall conduct a study of the desirability and feasibility of using Metropolitan Statistical Areas (MSAs) or other payment areas for physician payment purposes and report its recommendations to the Congress. The study shall address whether it is desirable to retain current carrier-wide localities, move to a system of statewide localities, or adopt MSAs or other payment areas.

Payment for Nonphysician Providers (due July 1, 1991)

The Commission shall study the implications of a resource-based fee schedule for nonphysician practitioners (physician assistants, clinical psychologists, nurse midwives, and others) whose services can be billed under Medicare. The study shall address what the proper level of payment should be for these practitioners, whether or not adjustments to their payments should be subject to the Medicare Volume Performance Standard process, and what update should be used for services outside the Medicare Volume Performance Standard.

Physician Fees under Medicaid (due July 1, 1991)

The Commission shall conduct a study of physician fees within state Medicaid programs, examining the adequacy of fees, physician participation in Medicaid, and beneficiary access to care.

Assistants at Surgery (due April 1, 1991)

The Commission shall conduct a study of the payment for assistants at surgery. The study shall examine:

- the necessity and appropriateness of using an assistant at surgery;
- the use of physician and nonphysician assistants at surgery;
- the appropriateness of providing for payments and the appropriate level of the payments under title XVIII of the Social Security Act; and
- the effect of OBRA86 amendments on the use of registered nurses as assistants at surgery, and whether reductions described in section 9338(d) of OBRA86 have been implemented.

REVIEW AND COMMENT

Updating the Conversion Factor

By April 15 of each year (beginning in 1991), the Secretary will recommend to the Congress an update(s) in the conversion factor(s) for the following year. The Commission shall review the recommendation and submit to the Congress, by May 15 of the year, a report that includes its recommendation regarding the update(s) in the conversion factor(s).

Medicare Volume Performance Standards

Volume Performance Standard Rates of Increase. By no later than April 15 of each year (beginning in 1990), the Secretary shall transmit to the Congress a recommendation, for the upcoming fiscal year, on an overall performance standard and separate standards for the categories of surgical services and such other categories of services the Secretary may establish by regulation. The Commission shall review the Secretary's recommendation and shall make its recommendation to the Congress by May 15 of that year.

Opt-out for Qualified Physician Groups. The Secretary shall develop a plan under which certain physician groups will be permitted to select separate performance standard rates in lieu of the national standard. The Secretary will develop criteria to determine which physician groups are eligible and the methods by which such group-specific performance standards would be accomplished. The Secretary shall report to the Congress by April 15, 1991, and the Commission shall review and comment on the report by May 15, 1991.

Monitoring of Charges

If significant changes occur in participation rates, assignment rates, and balance billing, the Secretary shall develop a plan for addressing the shifts and submit recommendations to the Congress. The Commission shall review the plan and recommendations and submit its comments to the Congress.

Monitoring Utilization and Access

The Secretary shall report to the Congress by April 15 of each year (beginning in 1991) on changes in the utilization of and access to Medicare services within geographic, population, and service-related categories and make recommendations accordingly to address problems of access and utilization. The Commission shall comment on the Secretary's recommendations to the Congress. In developing its comments and recommendations, the Commission shall convene and consult a panel of physician experts to evaluate the implications of medical utilization patterns on quality and access.

CONSULTATIONS

Radiology Services and Anesthesia Services

The Secretary is to make appropriate adjustments to the current relative values of the radiology fee schedule to assure that they are consistent with the relative values of similar services under the Medicare Fee Schedule. For anesthesia services, the Secretary shall use the current Relative Value Guide and adjust the conversion factor so that the fee schedule amounts of anesthesia services will be consistent with the Medicare Fee Schedule amounts for services of comparable value. In making these adjustments, the Secretary is required to consult with the Commission.

Extrapolation of Relative Values

The Secretary may use extrapolation and other techniques to determine the relative values of physicians' services for which specific data are not available. The Secretary shall take into account recommendations of the Commission.

Periodic Adjustments in Relative Values

The Secretary may adjust relative values to account for changes in medical practice, coding changes, new data on relative value components, or the addition of new procedures. In making the adjustments, the Secretary shall consult with the Commission.

Coding

The Secretary shall establish a uniform procedure coding system for all physicians' services. The Secretary shall provide for an appropriate coding structure for visits and consultations, with the option to incorporate time in the coding after January 1, 1993. In establishing the coding system, the Secretary shall consult with the Commission.

HHS Visit Code Modification Study

The Secretary shall conduct a study of the desirability of including time as a factor in establishing visit codes and submit a report to the Congress by July 1, 1991. In conducting the study, the Secretary shall consult with the Commission.

APPENDIX F

COMMISSION PUBLICATIONS

Annual Reports to Congress

Annual Report to Congress 1989

Annual Report to Congress 1988

Medicare Physician Payment: An Agenda for Reform, Annual Report to Congress 1987

Congressional Reports

The Costs of Providing Screening Mammography, Report to Congress No. 89-2, June 1989

Background Papers

Assignment and the Participating Physician Program: An Analysis of Beneficiary Awareness, Understanding, and Experience, No. 89-1, September 1989

Variation in Medicare Global Service Policies: Relationship to Current Payment and Implications for a Fee Schedule, No. 89-2, November 1989

Financial Incentives and Medical Practice: Evidence from Ontario on the Effect of Changes in Physician Fees on Medical Care Utilization, No. 89-3, December 1989

Medicare's Share in U.S. Physicians' Revenues, No. 89-4, December 1989

Minutes from all Commission meetings and public hearings are available upon request.

GLOSSARY

ACRONYMS

AAPCC	Average Adjusted Per Capita Cost
ABMS	American Board of Medical Specialties
ACNP	American College of Nuclear Physicians
ACP	American College of Physicians
ACR	American College of Radiology
ACS	American College of Surgeons
AFDC	Aid to Families with Dependent Children
AMA	American Medical Association
ARF	Area Resource File, Bureau of Health Professionals, Health Resources and Services Administration, U.S. Public Health Service
ARRS	American Roentgen Ray Society
ASA	American Society of Anesthesiologists
ASPE	Assistant Secretary for Planning and Evaluation, U.S. DHHS
AVG	Ambulatory Visit Group
BERC	Bureau of Eligibility Reimbursement and Coverage, HCFA
BDMS	Bureau of Data Management and Strategy, HCFA
BMAD	Part B Medicare Annual Data Files
BPO	Bureau of Program Operations, HCFA
BQC	Bureau of Quality Control, HCFA
CF	Conversion Factor
CMP	Competitive Medical Plan
CPR	Customary, Prevailing, and Reasonable
CPT	Current Procedural Terminology
CRNA	Certified Registered Nurse Anesthetists
CT	Computerized Axial Tomography
CWF	Common Working File

DHHS	U.S. Department of Health and Human Services
DO	Doctor of Osteopathy
DRG	Diagnosis-Related Group
EM	Evaluation and Management
EMC	Electronic Media Claims
FFS	Fee-for-Service
GAO	U.S. General Accounting Office
GM	Geographic Multiplier
GPCI	Geographic Practice Cost Index
HCFA	Health Care Financing Administration
HCPCS	HCFA Common Procedure Coding System
HHS	Department of Health and Human Services (also referred to as U.S. DHHS)
HI	Hospital Insurance Program (Medicare Part A)
HMO	Health Maintenance Organization
HMSAs	Health Manpower Shortage Areas
HSQB	Health Standards and Quality Bureau, HCFA
ICD-9	International Classification of Disease--Ninth Edition
IPA	Independent Practice Association
JCAHO	Joint Commission on the Accreditation of Healthcare Organizations
LCL	Lowest Charge Level Limit
LLP	Limited License Practitioner
MAAC	Maximum Allowable Actual Charge
MEI	Medicare Economic Index
MFS	Medicare Fee Schedule
MR	Magnetic Resonance Imaging
MSA	Metropolitan Statistical Area
NGA	National Governors' Association
OIG	Office of the Inspector General, U.S. DHHS
OPHC	Office of Prepaid Health Care, HCFA
PAR	Participating Physician Program
PC	Practice Costs
PCF	Patient Compensation Fund
PLI	Professional Liability Insurance

PPO	Preferred Provider Organization
PPRC	Physician Payment Review Commission
PPS	Prospective Payment System
ProPAC	Prospective Payment Assessment Commission
PROs	Peer Review Organizations
QA	Quality Assurance
QMB	Qualified Medicare Beneficiary
RBRVS	Resource-based Relative Value Scale
RVS	Relative Value Scale
RVU	Relative Value Units
SEM	Standard Error of the Mean
SMI	Supplementary Medical Insurance Program (Medicare Part B)
SMS	Socioeconomic Monitoring System
SMSA	Standard Metropolitan Statistical Area
SNM	Society of Nuclear Medicine
TW	Total Work
UCR	Usual, Customary, and Reasonable
UI	Urban Institute
URVG	Uniform Relative Value Guide
VPS	Volume Performance Standard

LEGISLATION (Listed Chronologically)

TEFRA	Tax Equity and Fiscal Responsibility Act of 1982, P.L. 97-248, enacted September 3, 1982.
DEFRA	Deficit Reduction Act of 1984, P.L. 98-369, enacted July 18, 1984.
COBRA	Consolidated Omnibus Budget Reconciliation Act of 1985, P.L. 99-272, enacted April 7, 1986.
OBRA86	Omnibus Budget Reconciliation Act of 1986, P.L. 99-509, enacted October 21, 1986.
OBRA87	Omnibus Budget Reconciliation Act of 1987, P.L. 100-203, enacted December 21, 1987.

MCCA	Medicare Catastrophic Coverage Act of 1988, P.L. 100-360, enacted July 1, 1988, repealed December 13, 1989.
OBRA89	Omnibus Budget Reconciliation Act of 1989, P.L. 101-239, enacted December 19, 1989.

STUDIES AND RESEARCH ORGANIZATIONS

AHCPR	Agency for Health Care Policy and Research
CBS	Current Beneficiary Survey
CHER	Center for Health Economic Research
HIS	Health Interview Survey
HSUS	Health Services Utilization Study (RAND)
NAMCS	National Ambulatory Medical Care Survey
NCHS	National Center for Health Statistics
NCHSR	National Center for Health Services Research
NHDS	National Hospital Discharge Survey
NMCES	National Medical Care Expenditure Survey, 1977
NMCUES	National Medical Care Utilization and Expenditure Survey, 1980
NMES	National Medical Expenditure Survey, 1987
PHS	Public Health Service
PPCIS	Physicians Practice Cost and Income Survey
SMS	Socioeconomic Monitoring System (AMA)

TERMS

Access: The ability to obtain needed medical care.

Actual Charge: One of the factors determining a physician's payment for a service under Medicare; equivalent to the billed or submitted charge. See Customary, Prevailing, and Reasonable.

Adjusted Average Per Capita Cost (AAPCC): An estimate of the average per capita cost incurred by Medicare per beneficiary in the fee-for-service system, adjusted by county for age, sex, and program entitlement.

Allowed Charge (Approved Charge): Payment for a physician service under CPR, includes the payment from Medicare and the beneficiary's coinsurance, but not any balance bill. See Balance Bill, Coinsurance, Customary, Prevailing, and Reasonable.

Assignment (Medicare): The term used to refer to a physician's decision to accept Medicare's allowed charge prior to submitting a bill; a guarantee not to balance bill. Physicians accepting assignment bill Medicare directly. See Balance Billing/Extra Billing, Non-Participating Physician, Participating Physician Program.

Assistant at Surgery: An individual who has the necessary qualifications to participate in a particular operation and actively assists in performing the surgery.

Balance Bill/Extra Bill: Physicians' charges exceeding the Medicare allowed charge.

Beneficiary: A person eligible for benefits under an insurance plan. Under Part B of Medicare, Americans over 65, many disabled individuals, and certain individuals with end-stage renal disease can become beneficiaries by paying a monthly premium.

Beneficiary Survey: A 1988 survey of a national sample of beneficiaries regarding assignment, participation, balance billing and understanding of the Medicare program. The survey was sponsored by PPRC and conducted by Mathematica Policy Research.

Carrier (Medicare): A private contractor who administers claims processing and payment for Part B services. See Part B (Medicare).

Charge Reduction (Rate): The percentage difference between a physician's billed charge and the Medicare allowed charge.

Coding: A mechanism for identifying and defining physician services.

Coinsurance: The portion of the balance of covered medical expenses which a beneficiary must pay after payment of the deductible. Under Medicare Part B, the beneficiary pays coinsurance of 20 percent of allowed charges. See Deductible.

Common Working File (CWF): A new HCFA data reporting system which will combine both Part A and Part B Claims in a common file. The CWF becomes fully operational beginning FY 1991.

Competitive Medical Plan (CMP): A health plan that is eligible under TEFRA 1982 to enter into a Medicare risk contract in return for a capitation payment, but which does not satisfy the requirements to be a federally qualified HMO. See Capitation, Federally Qualified HMO.

Conversion Factor: The multiplicative factor applied to the scale of relative work to produce a schedule of dollar amounts of payment for physicians' work.

Cost-sharing: The portion of payment for health expenses that the beneficiary must pay, including the deductibles, copayments, coinsurance, and extra bill. See Deductible, Copayment, Coinsurance, and Balance Billing.

Current Procedural Terminology (CPT): Coding system for physician services developed by the American Medical Association; basis of the HCPCS coding system. See Coding, HCFA Common Procedures Coding System (HCPCS).

Customary Charge: One of the factors determining a physician's payment for a service under Medicare. Calculated as the physician's median charge for that service over a prior 12-month period. See Customary, Prevailing, and Reasonable.

Customary, Prevailing, and Reasonable (CPR): Current method of paying physicians under Medicare. Payment for a service is limited to the lowest of 1) the physician's billed charge for the service, 2) the physician's customary charge for the service, or 3) the prevailing charge for that service in the community. Similar to the Usual, Customary, and Reasonable system used by private insurers. See Customary Charge, Prevailing Charge.

Deductible: A specified amount of covered medical expenses which a beneficiary must pay before receiving benefits. Medicare Part B has an annual deductible of $75.

Diagnosis-Related Groups (DRGs): System of classifying medical cases for payment on the basis of diagnoses; used under Medicare's prospective payment system (PPS) for inpatient hospital services.

Dual Eligibles: Medicare beneficiaries who also receive the full range of Medicaid benefits offered in their state.

Evaluation/Management Services: Nontechnical services provided by most physicians for the purpose of diagnosing and treating diseases and counseling and evaluating patients.

Expenditure Targets: A mechanism to adjust fee updates (or fees themselves) based on how actual expenditures in an area compare to a target for those expenditures. This concept is embodied in the Volume Performance Standards provisions.

Federally Qualified HMO: An HMO that has satisfied certain federal qualifications pertaining to organizational structure, provider contracts, health service delivery information, utilization review/quality assurance, grievance procedures, financial status, and marketing information.

Fee-for-Service: Refers to paying physicians for individual medical services rendered, as opposed to paying them with salaries or under capitation. CPR and fee schedules are examples of fee-for-service.

Fee Schedule: A catalog of predetermined payments for units of medical service.

Fiscal Intermediary (FI): A private contractor who administers claims for Part A services (e.g., hospital, nursing home) and some Part B services (e.g., hospital outpatient departments).

Geographic Practice Cost Index (GPCI): An index summarizing the prices of inputs to physician services in an area relative to national average prices. The components of the GPCI used in this report are the same as the components of the geographic adjustment factor specified in OBRA89. The components reflect the relative costs of the mix of goods and services that comprise practice expenses, including malpractice expenses, and 25 percent of the value of physicians' work effort in an area relative to the national average value of work effort.

Geographic Multiplier: This multiplier is used for making geographic adjustments to the Medicare Fee Schedule. The Commission recommends that the geographic multiplier adopted be based on a geographic index of practice costs.

Global Service: Package of clinically related services treated as a unit for purposes of billing, coding, or payment.

HCFA Common Procedure Coding System (HCPCS): Coding system based on CPT, but supplemented with additional codes for nonphysician services; required for coding by Medicare carriers. See Coding, Current Procedural Terminology (CPT).

Health Maintenance Organization (HMO): An organization that provides comprehensive health services to its members in return for a fixed prepaid fee. There are four types of HMOs: group, staff, independent practice association, and network.

Health Manpower Shortage Areas (HMSAs): A Health Manpower Shortage Area means any of the following which the Secretary of Health and Human Services determines has a shortage of health manpower: (1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public nonprofit private medical facility. Designated HMSAs can apply for National Health Services Corps (NHSC) personnel, or to be eligible for the NHSC scholarship program or the health profession student loan program.

Limited License Practitioner (LLP): A professional licensed to perform certain health services in independent practice (for example, podiatrists, dentists, optometrists, and chiropractors).

Locality (Medicare): A geographic area for which a carrier calculates prevailing charges. Localities can be states, aggregations of counties, parts of counties, metropolitan areas, zip code areas, or townships.

Maximum Allowable Actual Charge (MAAC): A limitation on billed charges for Medicare services provided by nonparticipating physicians. For physicians with charges exceeding 115 percent of the prevailing charge for nonparticipating physicians, MAACs limit increases in actual charges to 1 percent a year. For physicians whose charges are less than 115 percent of the prevailing, MAACs limit actual charge increases so they may not exceed 115 percent. See Actual Charge, Nonparticipating Physician.

Medicaid: A program of health insurance for the poor and medically indigent. States share in financing the program and determine eligibility and benefits consistent with federal standards.

Medicare Economic Index (MEI): A limitation on prevailing charges for Medicare services, in effect since 1975. Annual increases in the MEI are based on increases in physician practice costs and increases in general earnings levels. See Prevailing Charge.

Medicare Fee Schedule: The fee schedule to be used by Medicare to pay for physician services beginning January 1, 1992. This fee schedule is based on resource costs, and composed of factors representing physician work and practice costs.

Medigap Insurance: Private health insurance policies providing benefits not covered by Medicare, such as coinsurance.

Nonparticipating Physician: A physician who does not sign a participation agreement, and therefore is not obligated to accept assignment on all claims. See Participating Physician, Participating Physician and Supplier Program.

Outcome: The consequence of a medical intervention on a group of patients.

Overvalued Procedures: Procedures whose prevailing charges have been reduced because they were considered "overvalued" by historical CPR.

Part A (Medicare): The Hospital Insurance program, which covers the cost of hospital and related post-hospital services. As an entitlement program, it is available without payment of a premium. Beneficiaries are responsible for an initial deductible per spell of illness, and coinsurance for some services.

Part B (Medicare): The Supplementary Medical Insurance program (SMI); covers the costs of physician services, outpatient laboratory and X-ray tests, durable medical equipment, outpatient hospital care, and certain other services. As a voluntary program, Part B requires payment of a monthly premium. Beneficiaries are responsible for a deductible and coinsurance payment for most covered services. See Beneficiary.

Participating Physician: A physician who signs a participation agreement, agreeing to accept assignment on all Medicare claims for one year.

Participating Physician and Supplier Program (PAR): A program which provides financial and administrative incentives for physicians and suppliers to agree in advance to accept assignment on all Medicare claims for a one-year period.

Peer Review Organization (PRO): Organization contracting with HCFA to review the medical necessity and the quality of care provided to Medicare beneficiaries; formally titled Utilization and Quality Control Peer Review Organization.

Physicians Practice Cost and Income Survey (PPCIS): A survey of a national sample of physicians regarding practice characteristics, costs, and reimbursement, conducted by National Opinion Research Center (NORC) in 1984 with a follow-up in 1987; sponsored by HCFA and ASPE.

Practice Costs: The costs of all nonphysician inputs of medical services.

Practice Cost Percentage: The percentage of physician gross revenue devoted to practice costs.

Practice Guidelines: Clinical recommendations for patient care, based on knowledge of effectiveness of medical practices and procedures.

Premium: An amount paid periodically to purchase medical insurance benefits; for Medicare Part B services in 1990, beneficiaries must pay a premium of $28.60 per month.

Prevailing Charge: One of the factors determining a physician's payment for a service under Medicare. Currently set at the 75th percentile of customary charges of all physicians in the locality. Since 1976, its growth has been limited to the increase in the Medicare Economic Index (MEI). See Customary Charge; Customary, Prevailing, and Reasonable; Medicare Economic Index.

Procedure Coding: See Coding.

Professional Liability Insurance (PLI): The insurance physicians purchase to help protect themselves from the financial risks associated with malpractice claims and awards.

Relative Value Scale (RVS): Index that assigns weights to each medical service; the weights represent the relative amount to be paid for each service.

Resource Costs: The costs of the inputs used by an efficient physician to provide a service or procedure, including both the (opportunity) costs of the physician's own time and effort and the costs of nonphysician inputs. The apparently redundant use of "resource" with "costs" is a convention used to indicate the average costs of an efficient physician, as distinguished from cost-based reimbursement such as that used for hospitals prior to the Prospective Payment System.

Resource-Based Relative Value Scale (RBRVS): An RVS that is based on resource costs.

Socioeconomic Monitoring System (SMS): A system of annual and supplemental surveys of physicians directed by the American Medical Association Center for Health Policy Research. The SMS provides information on a range of characteristics including physicians' earnings, expenses, work patterns, and fees.

Specialty Differential: The difference in the relative value or amount paid for the same service when performed by different specialists.

Supplementary Medical Insurance Program (SMI): See Part B (Medicare).

Supplier: Providers, other than practitioners, of health care services. Suppliers under Medicare include independent labs, durable medical equipment providers, ambulance services, orthotists, prosthetists, and portable X-Ray providers.

Upcode: To bill for a service more intense, extensive, or costly than that which was provided.

Usual, Customary, and Reasonable (UCR): A method of establishing payment used by private insurers that is comparable to Medicare's Customary, Prevailing, and Reasonable.

Utilization Review (UR): The review of services delivered by a health care provider or supplier to determine whether those services were medically necessary and appropriate.

Volume Performance Standard (VPS): A mechanism included in OBRA89 to adjust fee updates based on how annual increases in actual expenditures compare to previously determined performance standard rates of increase.

BIOGRAPHIES

COMMISSION MEMBERS

PHILIP R. LEE

Philip R. Lee, M.D., Professor of Social Medicine, has served as Director of the Institute for Health Policy Studies at the University of California, San Francisco (UCSF) since 1972. He served as chancellor of UCSF from 1969 to 1972 and was assistant secretary for Health and Scientific Affairs in the Department of Health, Education, and Welfare from 1965 to 1969. Dr. Lee is the author of over 100 articles in the health field and has coauthored numerous books. His teaching and research endeavors in the field of health policy focus on health care for the elderly, prescription drugs, physician payment, reproductive health policy, and AIDS-related policies and costs. Dr. Lee is a frequent advisor to federal, state, and local health policymakers and serves on the boards of a number of nonprofit organizations. In July 1986, he was appointed Chairman of the Physician Payment Review Commission.

JIM BOB BRAME

Jim Bob Brame, M.D., is a family physician from Eldorado, a small community in West Texas, where he has been in private practice serving a rural and isolated area for twenty-three years. He is a graduate of the Tulane University School of Medicine. Dr. Brame's career-long interest has been improving access to and quality of health care. He has assisted in the design and implementation of prototype rural health facilities in West Texas and has established rural health clinics in Guatemala. He also has served as a physician representative to the American Hospital Association's Governing Council on Small or Rural Hospitals and Committee on Hospital Medical Staffs and Medical Affairs. Dr. Brame is a member of the National Rural Health Association and has served on the Board of Directors of the Texas Medical Foundation (PRO). Dr. Brame was also past president of the Texas Medical Association (TMA). He has served on several medical organization committees, including the Committee on Health Care of the Poor, the Committee on Health Planning, and the Council on Health Facilities. Dr. Brame is a member of the Texas Academy of Family Physicians and has served on their Board of Directors and on their Commission on Health Care Services. Dr. Brame is an associate clinical professor at the Texas Technical Health Sciences Center and a consultant to Mednet, an interactive two-way television network for rural health care providers. Current activities include health policy analysis and its application to the practicing physician.

P. WILLIAM CURRERI

P. William Curreri, M.D., is President of Strategem of Alabama, Inc. and Executive Vice President of Strategem, Inc., an international marketing and consulting firm in the health care field. He received his undergraduate education at Swarthmore College and his medical degree from the University of Pennsylvania. His surgical residency was completed at the Hospital of the University of Pennsylvania. After four years in the U.S. Army as a lieutenant colonel at Brooke Army Medical Center, he served on the faculty of the University of Washington School of Medicine in Seattle (1974-77) and was named the Johnson & Johnson Professor of Surgery while on the faculty of Cornell Medical Center in New York (1977-82). Dr. Curreri served as professor and chairman and chief of surgery at the University of South Alabama in Mobile (1981-88). A member of numerous professional societies and organizations, Dr. Curreri has a history of distinguished leadership, having served as president of the American Burn Association, the Society of University Surgeons, and the Halsted Society. He is President-Elect of The American Association for the Surgery of Trauma. A major contributor to surgical literature, Dr. Curreri also serves as a consultant to the *Journal of Trauma* and the Advisory Board of the *Journal of Burn Care and Rehabilitation, Annales Chirurgiae Et Gynaecologiae,* and the *Journal of Clinical Surgery.* He is the Editor-in-Chief of *The American Surgeon.* Dr. Curreri has been a frequent advisor to the National Institutes of Health and was a member of the Surgery, Anesthesia, and Trauma Study Section from 1980-84, serving as chairman from 1986-88. He is a member of the American Board of Surgery and the Executive Committee of the Board of Governors of the American College of Surgeons (ACS). He also serves as Secretary of the Board of Governors of the ACS.

KAREN DAVIS

Karen Davis, Ph.D., is Chairman of the Department of Health Policy and Management in the School of Hygiene and Public Health with a Joint Appointment as Professor of Economics at Johns Hopkins University. Positions previously held by Dr. Davis include deputy assistant secretary for Planning and Evaluation/Health at the U.S. Department of Health and Human Services; administrator of the Public Health Service, Health Resources and Services Administration; Senior Fellow at the Brookings Institution; visiting lecturer at Harvard University; and assistant professor, Rice University. Dr. Davis is Director of The Commonwealth Fund Commission on Elderly People Living Alone. In addition, she is a member of the Institute of Medicine, National Academy of Sciences, and the Maryland Governor's Commission on Health Care Policy and Financing. She also sits on several boards and committees concerned with health policy issues. Dr. Davis is the author of numerous books and articles on health economics and policy analysis including *Medicare Policy: New Directions for Health and Long-Term Care; Health and the War on Poverty: A Ten Year Appraisal; and National Health Insurance: Benefits, Costs and Consequences.* Dr. Davis holds her Ph.D. in economics from Rice University.

JOHN M. EISENBERG

John M. Eisenberg, M.D., M.B.A., is Sol Katz Professor of General Internal Medicine and Chief of the Section of General Internal Medicine at the University of Pennsylvania. He is a graduate of the Washington University School of Medicine, St. Louis. After his residency in internal medicine at the Hospital of the University of Pennsylvania, Dr. Eisenberg was a Robert Wood Johnson Foundation Clinical Scholar and earned a master of business administration degree at the Wharton School. He is now a Senior Fellow of the University of Pennsylvania's Leonard Davis Institute of Health Economics. Dr. Eisenberg is a member of the Board of Governors of the American Board of Internal Medicine and a member of the Council of the Association of Program Directors in Internal Medicine. He has served as president of the Society of General Internal Medicine and as vice president of the Society for Medical Decision Making. He has served as chairman of the Council of Medical Societies of the American College of Physicians and was a member of its Board of Regents. He is currently a member of the College's Health and Public Policy Committee. Previously, he was a member of the Health Care Technology Study Section of the National Center for Health Services Research. Dr. Eisenberg presently serves as Secretary of the Association for Health Services Research. He is a member of the Institute of Medicine, National Academy of Sciences, and the Association of American Physicians. Dr. Eisenberg has served as a consultant to and member of the editorial boards of several major medical and health policy journals. He is the author of *Doctors' Decisions and the Cost of Medical Care* and has published over 100 articles and chapters on topics such as physician practice, test use and efficacy, medical education, and clinical economics.

JACK GUILDROY

Jack Guildroy is a member of the Board of Directors of the American Association of Retired Persons (AARP). Previously, he served as chairman of the Association's New York State Legislative Committee and on AARP's National Legislative Council. An educator for 37 years until his retirement in 1978, Mr. Guildroy taught mathematics and social studies in secondary schools in New York and Massachusetts. Most of his career was devoted to counseling students at the high school level. A co-founder of the New York State Counselors Association, he also worked actively with the College Board and its Committee on Guidance. He authored articles on the ethical-legal problems of counselors in the *College Board Review*. Mr. Guildroy helped establish the Retired Educators Chapter of the Great Neck Teachers Association and was Secretary of the North Nassau Retired Teachers Association. He is a board member of the Friends and Relatives of Institutionalized Aged, Inc. Mr. Guildroy is a graduate of the University of Rochester with a bachelors degree in mathematics and masters in history. In addition, he has a permanent certificate in counseling from Columbia University Teachers College, and has taken graduate studies at New York University and the New School for Social Research.

MARK C. HORNBROOK

Mark C. Hornbrook. Ph.D., is a Senior Investigator and Director of the Research Program in Health Services and Social and Economic Studies at the Kaiser Permanente Center for Health Research (CHR). His research management responsibilities include serving as principal investigator on five large research projects: a randomized trial of an integrated behavioral/environmental intervention program to reduce the incidence and severity of fall-related injuries among older persons; a project to develop methods to adjust for differences in health risk among Medicare populations to set equitable payment rates under risk contracts with HMOs; a project to develop models to adjust employer contributions to counter selection bias within multi-option health benefits programs; an evaluation of the implementation phase of Hawaii's new State Health Insurance Program; and a randomized trial of an extended mode of care in hospital emergency departments. Dr. Hornbrook's other research activities include serving as a co-investigator to conduct cost-benefit and cost-effectiveness analyses of several innovative health promotion and health care delivery programs related to smoking cessation, cancer screening, mental illness, and childhood asthma. He is currently serving as Chair of the CHR Professional Board, the governing body of the CHR. Previously, as a Senior Research Manager at the Division of Intramural Research, National Center for Health Services Research, he was responsible for directing research on hospital case mix, costs, and use. Dr. Hornbrook also holds part-time academic appointments in the Schools of Nursing and Medicine at the Oregon Health Sciences University. Recently, Dr. Hornbrook has served as a consultant to the Office of Technology Assessment and the Oregon Health Services Commission. Dr. Hornbrook holds his Ph.D. in medical care organization, with emphasis in health economics, from the University of Michigan.

ROBERT B. KELLER

Robert B. Keller, M.D., is an orthopedic surgeon practicing in Belfast, Maine. He is Executive Director of the Maine Medical Assessment Foundation, a health services research organization in Maine which deals with the issues of variations in practice patterns, physician feedback and behavior change, and outcomes research. He graduated from Dartmouth College and received his medical degree from Cornell Medical School. After serving in the U.S. Navy, he undertook training in orthopaedics in the Harvard Univeristy Combined Residency Program. He is an Associate Professor of Orthopaedic Surgery at the University of Massachusetts Medical School. A member of numerous professional societies, he serves on several committees of the American Academy of Orthopaedic Surgeons and chairs the Subcommittee on Outcomes. He has contributed several articles and chapters on the subject of small area analysis and physician feedback and is a co-investigator of a medical effectiveness/outcomes research team evaluating low back pain and surgical outcomes. He is past president of the Maine Medical Association and a member of the Board of Directors of Medical Mutual Insurance Company of Maine, and he serves on the Health Policy Advisory Council of the State of Maine.

CAROL ANN LOCKHART

Carol Ann Lockhart, Ph.D., R.N., F.A.A.N., is Executive Director of the Greater Phoenix Affordable Health Care Foundation, an organization comprised of employers, providers, insurers, and consumers who work together to promote accessible, affordable quality health care. Dr. Lockhart has held a number of positions in public health at both the local and state levels. Most recently, she directed policy and program development and licensing for health and day care institutions in the Arizona Department of Health Services. She also served as Acting Director of the Arizona Health Care Cost Containment System (AHCCCS) during the initial months of the program. Dr. Lockhart serves on the faculty of the Arizona State University College of Business Administration and has taught at the College of Nursing and School of Public Health. She has coauthored two books on labor relations in health care. Dr. Lockhart is a Fellow of the American Academy of Nursing and received her Ph.D. from the Florence Heller Graduate School for Social Policy, Brandeis University.

WALTER B. MAHER

Walter B. Maher is the Director of Federal Relations for Chrysler Motors' Human Resources Office. He is responsible for the development and promotion of legislation which carries forth Chrysler's human resources objectives. Mr. Maher is particularly involved in the advancement of programs and policies that would assist businesses in controlling health care costs. He has been with Chrysler since receiving his LL.B. from Georgetown University in 1963. Prior to his current position, he served as the director of Employee Benefits at Chrysler. Mr. Maher's civic activities and memberships include the Council of Health Care Technology, the Institute of Medicine of the National Academy of Sciences, and Labor and Employee Benefits Committee-U.S. Chamber of Commerce. He is on the Board of Directors of the Washington Business Group on Health and is Co-chairperson of the Governor's Task Force on Access to Health Care, State of Michigan. In addition, Mr. Maher is a member of the Michigan Bar Association.

WALTER J. MCNERNEY

Walter J. McNerney is the Herman Smith Professor of Health Policy at the J. L. Kellogg Graduate School of Management, Northwestern University and Chairman of Walter J. McNerney and Associates, a management consulting firm in the health field. From 1961 to 1978, Mr. McNerney served as president of the Blue Cross and Blue Shield Association. Prior to 1961, Mr. McNerney was in hospital and medical center administration and served on the faculties of the Graduate School of Public Health, University of Pittsburgh and the Graduate School of Management, University of Michigan. Given his experience and broad understanding of health care policy issues, Mr. McNerney has been asked to sit on many boards and committees, such as the Board of Health Care Services of the Institute of Medicine, and the Advisory Panel on Assessment of Medical Technology of the Office of Technology Assessment. Mr. McNerney has published several books, monographs, chapters, and articles. He received his master's in hospital administration from the University of Minnesota.

THOMAS R. REARDON

Thomas R. Reardon, M.D., has maintained a busy general practice in Portland, Oregon, for nearly 25 years. He is a graduate of the University of Colorado Medical School. Dr. Reardon has been involved in activities on behalf of organized medicine at the county, state, and national level. He now represents the AMA Hospital Medical Staff Section at the AMA House of Delegates. In addition, Dr. Reardon has served on the AMA Task Force on Physician Manpower. Prior to his tenure as president of the Multnomah County Medical Society in 1980 to 1981, Dr. Reardon served on several committees including peer review and grievance. He later held the offices of vice president and president of the Oregon Medical Association (OMA). Dr. Reardon served as chairman of several committees of the OMA, including the Committees on Private Practice and Hospital Relations, Health Planning, Legislation, Board of Censors and Ethics. In addition to his involvement with organized medicine, Dr. Reardon has assisted his community by serving on various task forces to study health care for the medically indigent. He has maintained an active liaison with the elderly community and participated on Congressman Ron Wyden's task force on Medicare reimbursement.

UWE R. REINHARDT

Uwe R. Reinhardt, Ph.D., is the James Madison Professor of Political Economy at Princeton University, where he has been teaching since 1968. He received his Ph.D. in economics from Yale University and an honorary doctorate from the Medical College of Pennsylvania in 1987. Professor Reinhardt is a member of the Washington, D.C.-based National Leadership Commission on Health. He has served on several councils and task forces, such as the Governing Council of the Institute of Medicine, the National Health Care Technology Council of the Department of Health, Education, and Welfare, and the Veterans Administration's Special Medical Advisory Group. He has also served on a number of editorial boards of major health policy and economic journals. Professor Reinhardt is the author of *Physician Productivity and the Demand for Health Manpower* and numerous articles on health economics, accounting, and corporate finance. His work in the latter area has included a financial analysis of the Lockheed L-1011 Tri-Star, benefit-cost analysis of the Space Shuttle, and pricing strategies for the Space Shuttle. Dr. Reinhardt's consulting activities have included work for the Department of Health and Human Services, Mathematica Policy Research, the Urban Institute, and Econ

Incorporated. He has been a consultant in management training, primarily in managerial economics and corporate finance, for several major corporations.

GAIL R. WILENSKY

Gail R. Wilensky, Ph.D., is a nationally recognized expert on the problems of the uninsured and has written and spoken extensively on this subject. She has published many articles in the field of health economics and health policy, both professional and popular journals. Previously, she was the vice president, Division of Health Affairs, and director, Center for Health Affairs for Project HOPE where her primary responsibilities were in the development of health policy. Dr. Wilensky is a member the Institute of Medicine of the National Academy of Sciences. She has held faculty appointments at the University of Michigan and George Washington University and a senior research appointment at the Urban Institute. Dr. Wilensky received her Ph.D. in economics from the University of Michigan. Dr. Wilensky resigned before her term was completed at the Commission to become Administrator of the Health Care Financing Administration.

COMMISSION STAFF

PAUL B. GINSBURG, Ph.D., is the Executive Director of the Commission. He has long and varied experience with a wide range of health care financing issues, including physician payment, hospital payment, health insurance, and alternative delivery systems. Prior to joining the Commission, Dr. Ginsburg was a senior economist at the RAND Corporation, where he led projects on preferred provider organizations, Medicare prospective payment, physician payment, and cost containment in employment-based health plans. He was deputy assistant director for Income Security and Health at the Congressional Budget Office, where he prepared analyses for the Congress on federal health policy issues with significant budgetary implications. Dr. Ginsburg has served on the faculties of Duke University and Michigan State University. He earned a doctorate in economics at Harvard University in 1971.

GLENN T. (TERRY) HAMMONS, M.D., is a Deputy Director of the Commission. Dr. Hammons received a medical degree from Washington University, and completed his residency and fellowship at Barnes Hospital and Washington University Medical Center in St. Louis. He also received a masters degree in economics from the Massachusetts Institute of Technology and completed a Pew Fellowship in Health Policy at the RAND Corporation and the University of California, Los Angeles. He has published work in health policy and health services research, cell biology, and clinical medicine. He was on the faculty of the University of Iowa College of Medicine prior to coming to the Commission in 1986.

LAUREN B. LeROY, Ph.D., is a Deputy Director of the Commission. Dr. LeRoy came to the Commission after serving as associate director of the Commonwealth Fund Commission on Elderly People Living Alone. Prior to that, she was assistant director of the Institute for Health Policy Studies, University of California, San Francisco, and the director of the Institute's Washington Office. She also spent several years working on health care financing legislation in the Department of Health, Education, and Welfare. Dr. LeRoy's research interests and published work have focused on physician training and practice, the nurse labor market, and aging issues. Dr. LeRoy received her doctorate in social policy planning from the University of California, Berkeley.

JIM BAHR is an Analyst at the Commission. He took his masters of science in education at the University of Pennsylvania. Having worked as a freelance programmer/analyst in Philadelphia for several years, he joined the Commission staff to develop in-house computational capabilities. At the Commission, in addition to the provision of programming and technical expertise, his analytical work has focused on payment for psychiatric services, and rural versus urban costs of practice.

JILL BERNSTEIN, Ph.D., is a Senior Analyst at the Commission. She holds a doctorate and a masters in sociology from Columbia University. She previously was a project manager in the Program Evaluation and Methodology Division of the U.S. General Accounting Office where she concentrated on issues of quality assessment in the Medicare and Medicaid programs. She also served as a senior analyst for Advanced Technology Inc. in the area of student financial aid quality assurance. At the Commission, she coordinates staff work on Volume Performance Standards, utilization and quality review and beneficiary issues. She is also a member of the Medicaid project team.

DAVID C. COLBY, Ph.D., is a Principal Policy Analyst at the Commission. He received his doctorate in political science from the University of Illinois. Previously, he held faculty and administrative positions at Williams College and the University of Maryland, Baltimore County. In 1986-87, he was a Robert Wood Johnson Health Finance Fellow. At the Commission, he has developed simulations to estimate Medicare Fee Schedule payments, to identify overvalued procedures, and to study the impact of the fee schedule on physicians and beneficiaries. He is currently working on integrating radiology and anesthesiology into the fee schedule and analyzing physician payments under Medicaid. In addition to his analytical and research responsibilities, he is a member of the Commission Staff Executive Committee.

CHRISTOPHER HOGAN, Ph.D., is a Senior Analyst at the Commission. He holds a doctorate in economics from Northwestern University. He has worked at the National Center for Health Services Research, where he studied federal expenditures. He also conducted research on physician payment issues as senior economist with the Consolidated Consulting Group. He currently works on subnational Volume Performance Standards, the VPS target rate of increase, and HMO payment policy.

DAVID A. JUBA is a Senior Analyst at the Commission. He is currently working on two major studies: an evaluation of the Medicare Fee Schedule payment area configurations and an evaluation of fee schedule adjustments in rural areas. Previously, he has conducted several empirical studies for the Commission including simulations of the effects of the Medicare Fee Schedule by specialty and geographic area. In addition, he shares responsibility for the development and maintenance of the Commission's extensive Medicare data bases.

WILLIAM R. KOPROWSKI, Ph.D., is a Robert Wood Johnson Foundation Faculty Fellow in Health Care Finance, currently on leave from the Department of Health Services Administration at the Medical University of South Carolina. He received a doctorate in business administration from Temple University. He is a Certified Management Accountant and a fellow of the Healthcare Financial Management Association. Dr. Koprowski has concentrated his efforts at the Commission on accounting questions relating to practice cost estimation and malpractice issues.

ROZ DIANE LASKER, M.D., is a Principal Policy Analyst at the Commission. She received her medical degree from the University of Pittsburgh School of Medicine. Following her residency training in internal medicine, she completed a fellowship in endocrinology and metabolism at the National Institutes of Health. Dr. Lasker was previously on the faculty at the University of Vermont College of Medicine and has published numerous articles in basic and clinical endocrinology. Since joining the Commission in 1987, she has focused on issues related to refining the scale of relative work for the Medicare Fee Schedule. She designed and directed the Commission's Carrier Survey and Survey of Visits and Consultations and has been responsible for the Commission's consensus processes to standardize codes for surgical global services, incorporate time in codes for evaluation and management services, and refine the scale of relative work. In addition to her analytic and research responsibilities, Dr. Lasker is a member of the Commission Staff Executive Committee.

KATHERINE MACENKO is a Junior Analyst at the Commission. She received her bachelors from Miami University, Oxford, Ohio. Previously, she worked as staff in the U.S. House of Representatives for Representative Willis D. Gradison, Jr., where her responsibilities included casework in the areas of Medicare and Social Security. She recently joined the Commission staff and has assisted on a variety of analytical projects.

SHERAN ESTES MCMANUS serves as the Administrative Officer of the Commission. Having received a bachelors from the University of Maryland, she continued her studies at the George Washington University. She previously worked as Executive Associate of the George Washington University's National Health Policy Forum and in various capacities at the U.S. Department of Health and Human Services. At the Commission, she is responsible for the administrative, production and financial aspects of its operation.

MAUREEN MOLLOY is an Analyst at the Commission. She holds a masters degree in public health with a concentration in health policy and management from Johns Hopkins University. She is also a registered nurse with over ten years hospital experience in cardiology. Previously, she was the information programs manager for the National Association of Children's Hospitals and Related Institutions. At the Commission, she has focused on the Medicare Fee Schedule, including standardization of surgical global services, coding for evaluation and management services, and identification of overvalued procedures.

CURT D. MUELLER, Ph.D., is a Senior Analyst specializing in health economics and health policy. His current work focuses on the costs of medical practice and how these are to be included in the Medicare Fee Schedule. Previously, he worked as an economist at the National Center for Health Services Research. His responsibilities included design of the institutional population component of the 1987 National Medical Expenditure Survey and research on health expenditures. He also served on the faculty of the Department of Public Administration at Syracuse University. He holds a doctorate in economics from the University of North Carolina at Chapel Hill.

CARLOS A. MUÑOZ, Ph.D., is currently a Robert Wood Johnson Foundation Faculty Fellow in Health Care Finance. He received a doctorate in economics from Boston University. He is on leave from the University of Puerto Rico School of Public Health where he is an assistant professor. At the Commission, he is working on defining geographic payment areas for the Medicare Fee Schedule, evaluating adjustments to the fee schedule in rural areas, studying alternate payment methods to non-physician providers, and is also a member of the Medicaid project team.

THOMAS RICE, Ph.D., is on a one-year leave of absence from his position as associate professor in the Department of Health Policy and Administration at the University of North Carolina School of Public Health. He holds a doctorate in economics from the University of California at Berkeley. Previously, he was a senior health economist at the Stanford Research Institute. In addition to physician payment issues, he has conducted research and published extensively on topics such as health insurance, health care costs for the elderly, and alternative delivery systems. At the Commission, he focuses on Medicare Volume Performance Standards and on Medicaid payment issues.

ANNE SCHWARTZ is an Analyst at the Commission. She will receive her masters degree in health policy and finance from Johns Hopkins University in May. Previously, she worked as staff in the U.S. House of Representatives for the Select Committee on Children, Youth, and Families and Representative Claudine Schneider, where her work involved health care, education, and child care issues. At the Commission, her work has focused on beneficiary issues, payment to limited license practitioners, physician payment under Medicaid, and coding for evaluation and management services.

ANTHONY M. TUCKER is an Analyst at the Commission. He holds a masters in public administration from the Kennedy School of Government, Harvard University. Mr. Tucker has a 15-year background in administrative and research information systems development.

For the past six years, he has been involved in health care program operations research with an emphasis on managed care, first with Mathematica Policy Research, Inc. and then with the Group Health Association of America. His focus at the Commission includes capitation and related managed care issues as well as organizational issues related to the implementation of Volume Performance Standards.

SUSAN WALL is a Junior Analyst at the Commission. She received a bachelor of science degree in public health from the University of North Carolina at Chapel Hill. Her work at the Commission has focused on payment of physicians' professional liability insurance expenses within the Medicare Fee Schedule.

CMS LIBRARY
3 8095 00015350 8